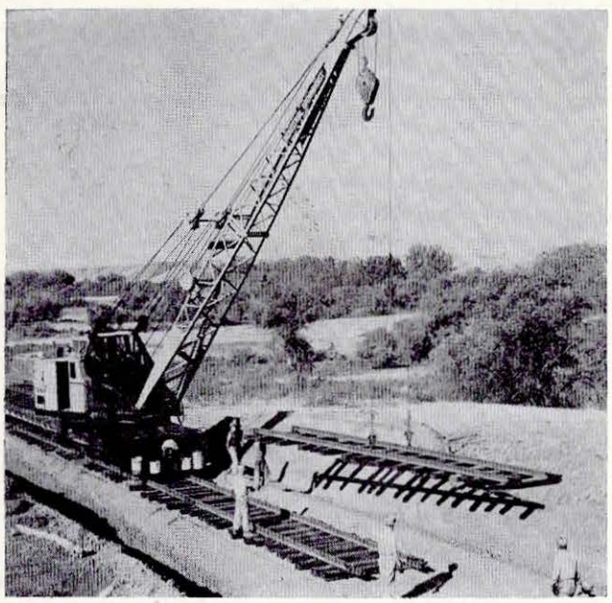
Reading Adds Years
To Curve Rail Life

November 10, 1958

RAILWAY AGE *weekly*



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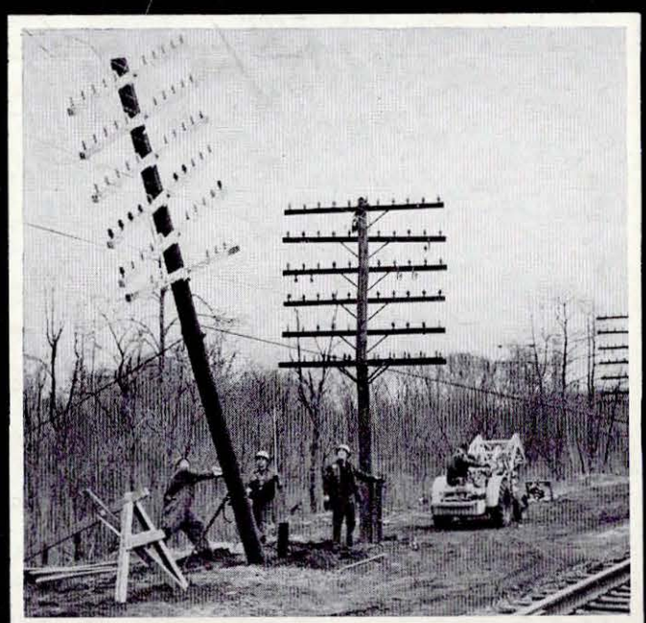
GN switches to track panels to finish job in two months

Cut your pole line maintenance costs

roads tell how modern tools pile up big savings



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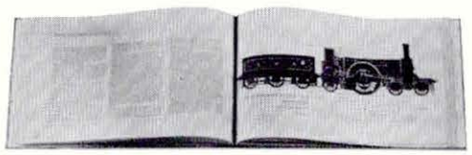

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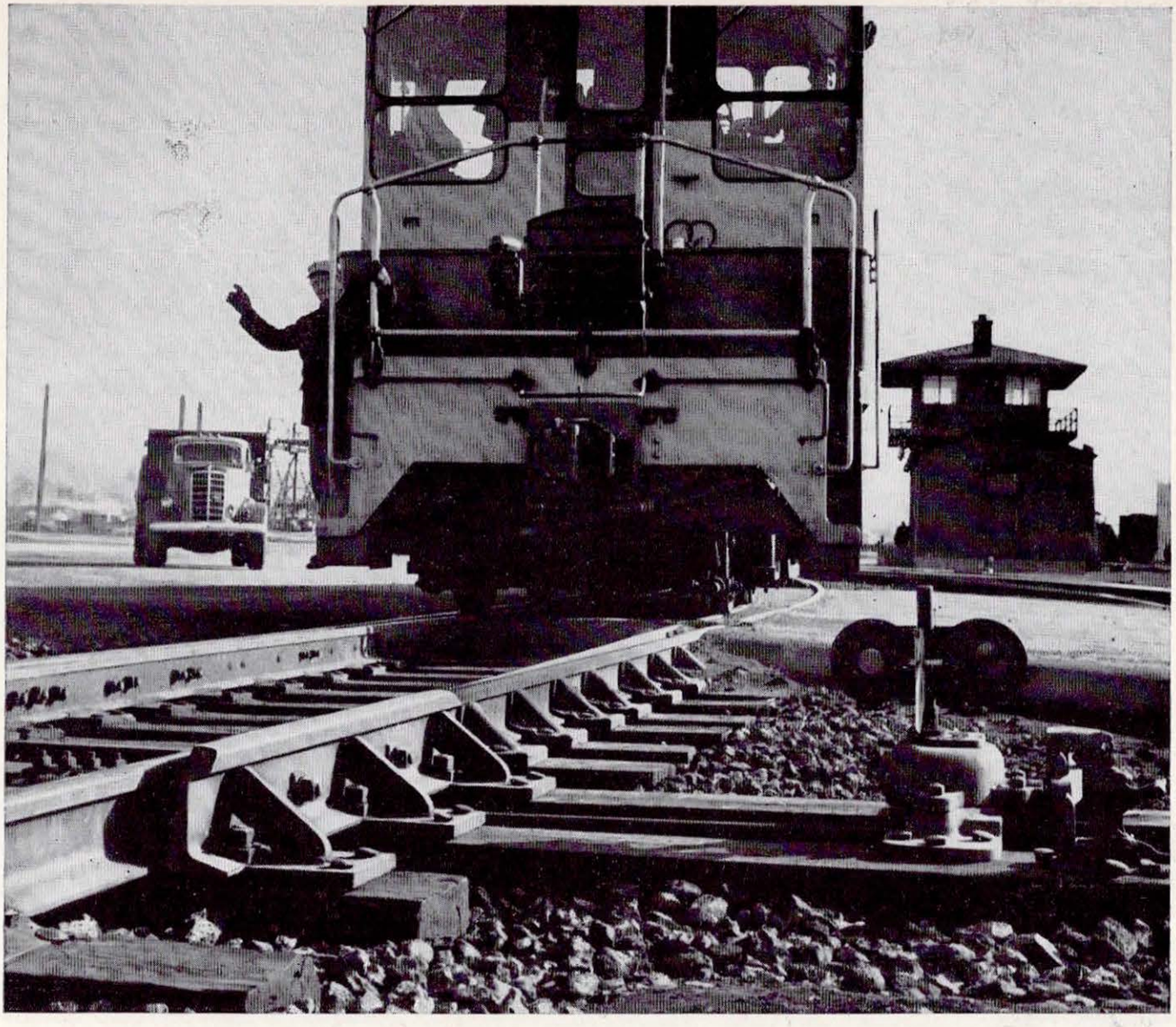

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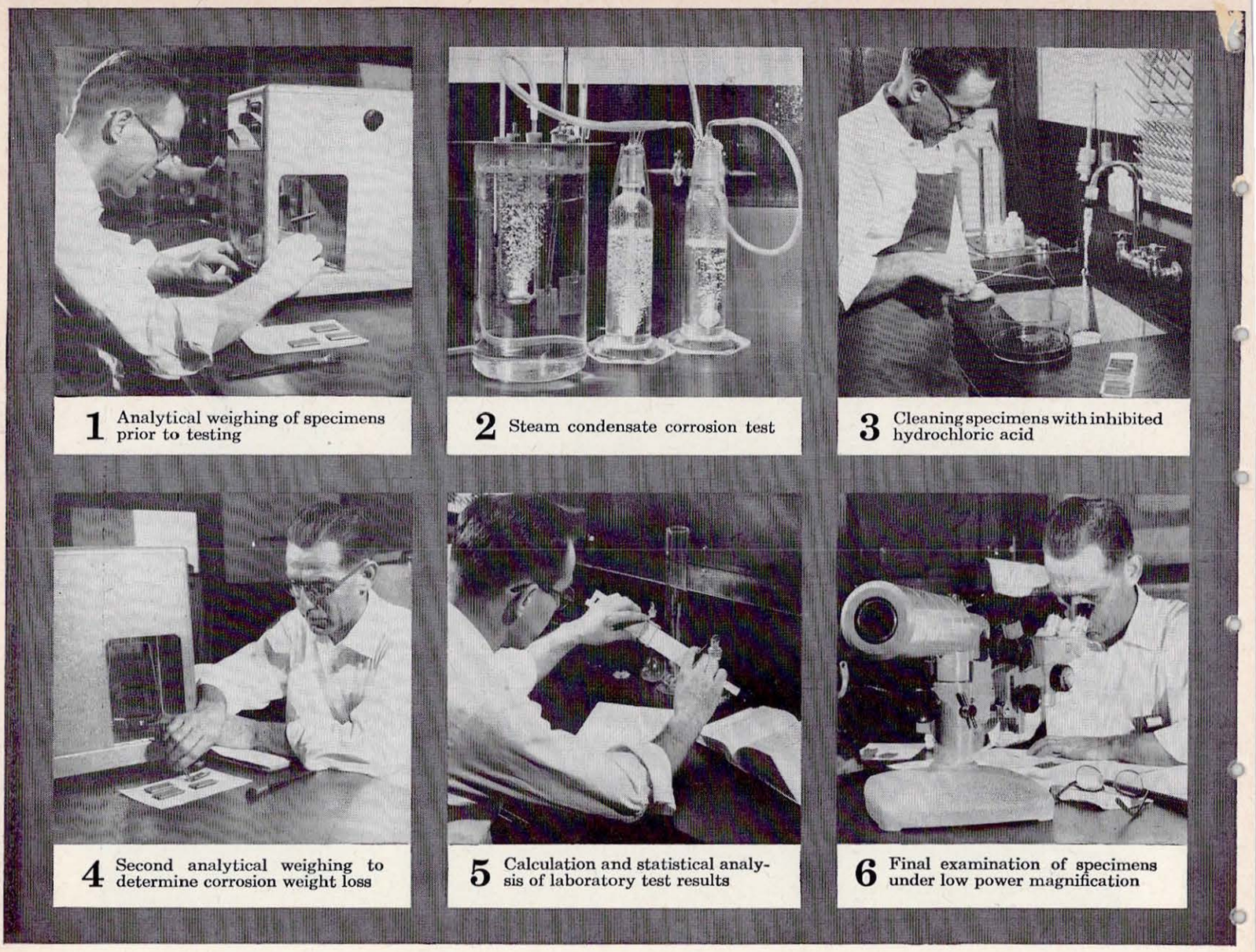

1 Analytical weighing of specimens prior to testing

2 Steam condensate corrosion test

3 Cleaning specimens with inhibited hydrochloric acid

4 Second analytical weighing to determine corrosion weight loss

5 Calculation and statistical analysis of laboratory test results

6 Final examination of specimens under low power magnification

Extensive testing program proves new 4-D Wrought Iron more corrosion-resistant than ferrous substitutes

Test results from the Byers Research Laboratory lend documentary support to the superiority of new 4-D Wrought Iron—over standard Wrought Iron as well as ferrous substitutes.

Convincing case-history service records are now further substantiated by the conclusive findings of our metallurgical staff. Some typical results of this testing program are presented in the chart at right.

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BYERS WROUGHT IRON

Comparative Analysis of 4-D Wrought Iron Corrosion Tests

Tests	4-D Wrought Iron	Standard Wrought Iron	Ferrous Substitutes
Severe industrial atmospheric continued exposure 17 years	Corrosion weight loss 540 grams/sq. ft.	Corrosion weight loss 655 grams/sq. ft.	Not included in test
Steam condensate return line	*At least 25% greater corrosion-resistance than standard Wrought Iron	No failures 10 years (still in service)	Complete failure after 2 years
Aerated salt water—5 weeks (Short term test—points indicate 4-D Wrought Iron curve flattening out at much lower rate of attack)	Corrosion weight loss 146 mg/sq. in.	Corrosion weight loss 170 mg/sq. in.	Corrosion wt. loss 226 mg/sq. in.
Brine piping	*At least 25% greater corrosion-resistance than standard Wrought Iron	No failures 23 years (still in service)	Complete failure after 7 years
Salt water, Gulf of Mexico ¼ inch plate—17 years	Corrosion weight loss 4 mills/years (minimum plate thickness now 3/16") Still in excellent condition	Not included in test	Corrosion weight loss 30 mills/years; plate badly pitted, perforated
Downspout	*At least 25% greater corrosion-resistance than standard Wrought Iron	No failures in 29 years (Still in service)	Complete failure after 18 years

*In this application no long term test data yet available on 4-D Wrought Iron. Results shown are derived from short term tests.

RAILWAY AGE *weekly* November 10, 1958 • Vol. 145, No. 19

Week at a Glance

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Railway Age, established in 1856, is indexed by the Industrial Arts Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.
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Railroads eye airline strike pact ..... p. 9

A revenue-sharing agreement involving six air carriers promises to get close study from the railroad industry. Object of the airline plan: to protect individual carriers from loss of revenue during strikes.

Dewey argues '58 Act for NYC p.10

Former New York governor tells federal court that all provisions of the new Transportation Act are constitutional. At issue: the New York Central's right to abandon Hudson River ferry service.

New way to build a branch line p.16

Great Northern engineers had to build the line fast—and economically. They did it by using pre-assembled track panels. Two six-man gangs, each working an eight-hour shift, laid about 6,000 ft of track a day.

Reading adds years to curve rail life p.20

Flange lubricators equipped with molybdenum disulfide sticks can increase the service life of curve rail by 35 per cent. That's one of the basic findings from tests conducted by the Reading to determine how rail-flange lubrication can be provided without adversely affecting wheel-to-rail adhesion.

Tie renewal rate continues down p.24

Crossties installed next year will total about 20,707,000, the annual convention of the Railway Tie Association was told. Another forecast said tie renewals are expected to decline until they level off at about 16 million to 19 million ties a year.

What is your RR doing to prevent costly fires? p.28

The Belt of Chicago learned the hard way, after one of its roundhouses was destroyed. Nothing should ever be taken for granted where a potential fire is concerned, the road's president says. Here's why it will never happen again on the Belt.

Cut your pole line maintenance costs p.32

Is your railroad taking full advantage of modern methods of maintaining pole lines? The costs of such work can be cut—by mechanization. Read these case histories of how four companies have cut costs without reducing the quality of maintenance.

$2 billion yearly spending urged p.36

Railroads will have to double their average post-war annual expenditures if they're to realize their full potential, says N&W President Saunders.

WHY THIS AMAZING MARK 80 WILL REDUCE YOUR DAMAGE CLAIMS!

Here's the A.A.R. Test story...

SUMMARY OF OFFICIAL CAPACITY TESTS WESTINGHOUSE MARK 80—36" POCKET GEAR							SUMMARY OF RESERVE TRAVEL CAPACITY				
Capacity as Received (ft.-lb.)	Closing Height (inches) As Received Test	Official Capacity (ft.-lb.)	Gear Closure and Recoil		Capacity at Half Travel %	Reaction at Record Blow (lb.)	Official Capacity (ft.-lb.)	Travel inches	Gear Travel in Excess of 4.75"	Capacity at Final Closure	Reaction at Final Closure
			Travel (inches)	% Recoil							
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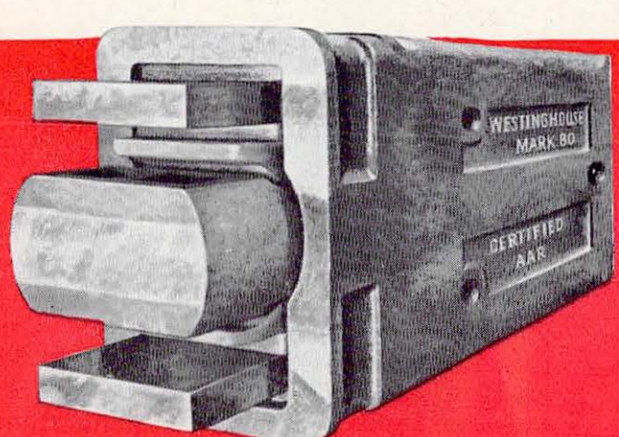

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Week at a Glance CONT.

Current Statistics

Operating revenues, eight months	
1958	$6,163,751,500
1957	7,046,516,187
Operating expenses, eight months	
1958	4,982,860,039
1957	5,514,763,914
Taxes, eight months	
1958	589,740,658
1957	736,630,251
Net railway operating income, eight months	
1958	392,812,871
1957	615,496,115
Net income estimated eight months	
1958	278,000,000
1957	475,000,000
Average price 20 railroad stocks	
Nov. 3, 1958	99.14
Nov. 6, 1957	70.57
Carloadings revenue freight	
Forty-three wks., 1958	24,885,407
Forty-three wks., 1957	30,055,905
Average daily freight car surplus	
Wk. ended Nov. 1, 1958	14,218
Wk. ended Nov. 2, 1957	12,871
Average daily freight car shortage	
Wk. ended Nov. 1, 1958	5,153
Wk. ended Nov. 2, 1957	475
Freight cars on order	
October 1, 1958	24,982
October 1, 1957	71,981
Freight cars delivered	
Nine months, 1958	34,664
Nine months, 1957	76,344

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Subscription to railroad employees only in U.S. possessions, Canada and Mexico, $4 one year, $6 two years, payable in advance and postage paid. To railroad employees elsewhere in the western hemisphere, $10 a year, in other countries, $15 a year. Single copies 60¢ except special issues. Address all subscriptions, changes of address, and correspondence concerning them to: Subscription Dept., Railway Age, Emmett St., Bristol, Conn.

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POSTMASTER—SEND FORM 3579 to EMMETT ST., BRISTOL, CONN.

The Action Page—Railroading is on the move p.42

Never before in this century have railroads offered greater opportunities for managerial talent than they do now. Skill and speed in innovation, rather than adherence to traditional ways, is the mark of successful railroading today.

Short and Significant

A new welded rail process . . .

has been imported from France by C&O. Called alumino-thermique rail welding, the new process promises big savings on track maintenance costs, according to the railroad. First test application of the new "ribbon of steel" has been made on a busy mile-long stretch of C&O track near Toledo, Ohio. Another test is to be made on a stretch of track near Catlettsburg, Ky.

The operating crafts struck the Katy . . .

early last Thursday morning in a dispute over certain changes in terminals on the road's Northwest Division. Operations were at a virtual standstill immediately following the 6 a.m. walkout, but Katy obtained a temporary restraining order against the union and the ops were expected to return to work quickly. A brotherhood officer, however, indicated the affair "looks like a pretty serious fight."

Texas railroads are warning . . .

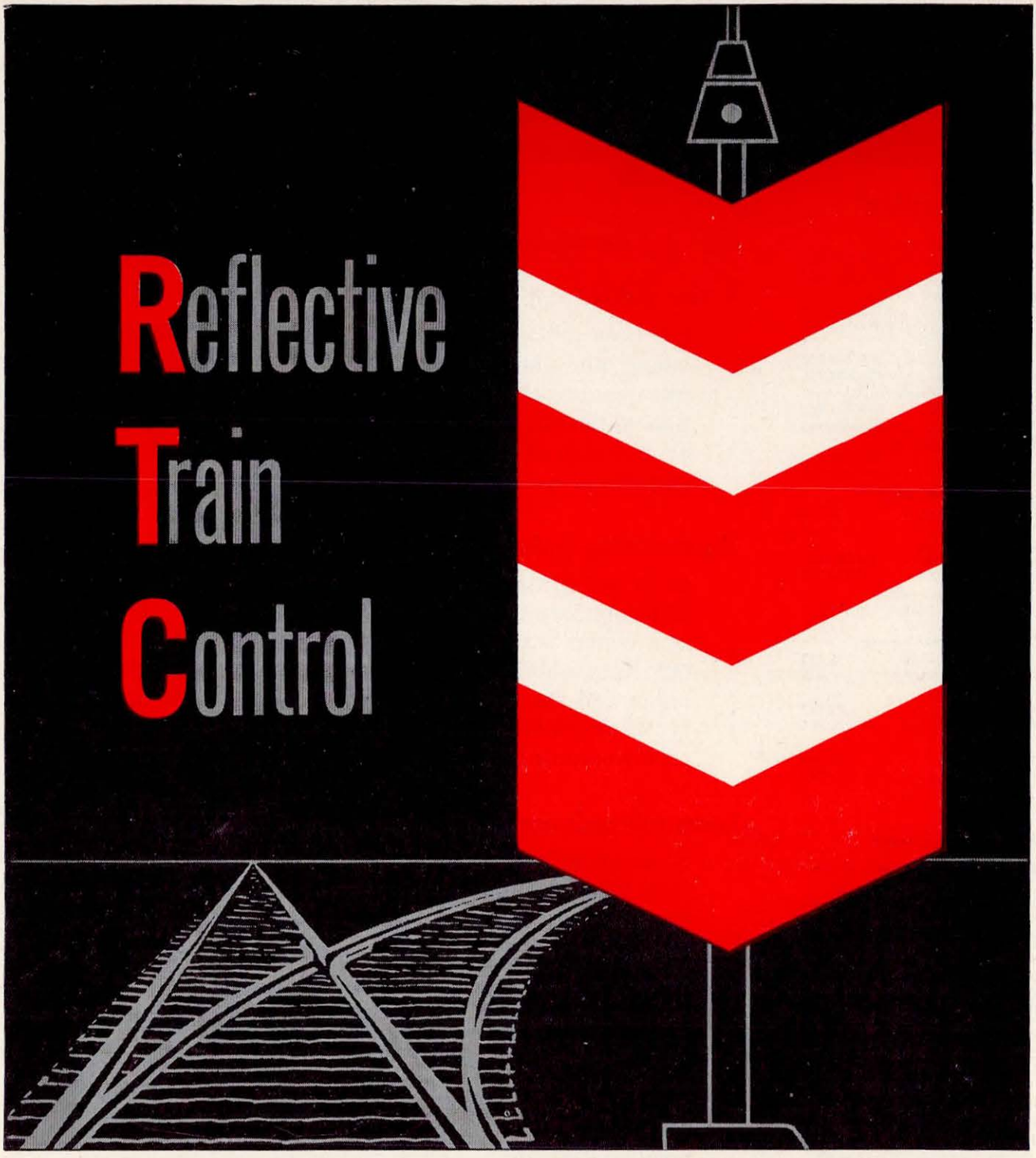
of union efforts, expected next year, to legislate another train crew job into existence. One legislative proposal, according to the Texas Railroad Association: to require by law employment of a third helper on all yard crews.

Rock Island has bought GM's two Aerotrains . . .

for Chicago-Joliet, Ill., suburban service. Purchase price was not disclosed. The move gives RI three lightweights (the Talgo Jet Rocket is the third) serving commuters. Both the Aerotrain and Jet names will be discarded—Rock Island is calling the trains "Suburbanites."

September's net income of Class I railroads . . .

is estimated at $73,000,000—up $9,000,000 from September 1957's $64,000,000. Net railway operating incomes for the month were $93,564,724 and $84,173,722, respectively. For this year's first nine months, the estimated net income was $354,000,000, and the net railway operating income was $487,759,288. These compared, in turn, with 1957 figures of $540,000,000 and $699,669,837. Twenty-two Class I roads failed to earn interest and rentals in this year's first nine months. Rate of return for the 12 months ended with September averaged 2.58%, compared with 3.64% in the previous 12 months.



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Railroads Eye Airline Strike Pact

Six air carriers have unveiled a mutual aid plan to cushion individual lines against loss of revenue during strikes. Question: would a similar "strike insurance" agreement be practical for the railroad industry?

► **The Story at a Glance: Is a "mutual security" pact in the cards for U. S. railroads?**

The question arose last week when six airlines unveiled what amounted to a "strike insurance" plan: a strike-crippled airline is to get aid from non-struck lines under a revenue-sharing arrangement.

Any attempt to apply such a plan to the railroad industry would encounter many obstacles—e. g., the possibility of anti-trust action; the possibility of industry-wide strikes; the probable difficulty of reaching agreement on any revenue-sharing formula.

But there's precedent for such plans—and with labor contracts coming up for renegotiation next year, railroad men are bound to watch the progress of the airline pact with interest.

A three-week-old strike against Capital Airlines precipitated the air carriers' "strike insurance" agreement. The plan is to assist any member of the pact that is closed by a strike, by sharing the revenue on traffic picked up from the struck line.

Organized labor was quick to attack the plan as an "illegal cartel." One union threatened to strike any participating airline.

Capital claimed the plan was effective immediately, and didn't require prior CAB approval. But the CAB said it would have to determine if the plan were in the public interest. The board promised a decision "soon." (The ICC presumably would subject any similar railroad pact to the same "public interest" test.)

Business observers are pointing out, meanwhile, that the "mutual security" principle is not unprecedented in labor-management negotiations. For example, New York City newspapers two weeks ago threatened to close down as a group if any one paper were struck. Other industries have also, in the past, acted collectively in response to collective union action.

In the railroad industry itself, there is precedent for revenue pools. The Railroad Credit Corporation grew out of a 1931 ICC order requiring railroads to pool revenue gained from a rate increase, and use it for loans to roads unable to meet interest charges.

If the airline revenue-sharing plan is approved and goes into effect, it could bring the end to what some see as a union pattern of striking the weak link—the old divide-and-conquer method.

It's been pointed out that Capital was hit first and separately by the machinists. Actually, the single strike has had comparatively little effect on travel patterns. People merely are using other airlines to get in and out of New York, Chicago, Washington or Pittsburgh. It's a tough decision, one railway officer concedes, for a management to stand a strike with industry-wide implications—while its business goes to its competitors.

But if a revenue-sharing plan were in effect and if the unions carried out a threat to strike all parties to the plan—then the whole question of public opinion would be brought to bear on the issues involved. Passengers, in this case, would be inconvenienced. Freight wouldn't move by air. In other words, if the strike came to a head on all lines at once, the entire country would become conscious of the situation.

The divide-and-conquer strategy has been followed, to some extent, in the railroad industry. The strike hits a supposed weak link. After that target is knocked off, the door is open for advances on stronger roads.

The plan—and general union retaliation—also bring up the question of union ability to support (and win) a strike on an industry-wide basis.

There's never been a case, according to one railway officer, where a railroad has refused to accept an emergency board recommendation. The same is not true of the unions—and it was union refusal to accept such a recommendation that touched off the Capital strike.

Making any such sharing plan effective in the railroad industry, however, would be a more difficult task than the airlines face.

If such a proposal were interpreted as a pooling of revenue, it would require ICC approval.

Railroads would have more difficulty in identifying and tracing traffic, for revenue division purposes.

A big industry, where all switching is handled by one line, would pose another problem. If the switching line were struck, no business from that plant would move by rail. Thus the struck switching line would be eligible for revenue-sharing aid—but other lines, not struck, would be the real losers.

A cautious estimate of the situation would run something like this: Railroad operation couldn't be easily worked into such a plan—but might possibly lend itself to some aspect of the proposition.

Arkansas Voters Nix Full-Crew Repeal

Arkansas voters have decided that, in effect, they're better judges of railroad manpower needs than are the roads themselves. A railroad-backed initiated act to repeal the state's full-crew law polled a strong vote last Tuesday—but it lost by a sizeable margin.

With ballots tabulated from 1,906 of the state's 2,316 precincts, full crew repeal was trailing by about 25,000 votes.

The balloting followed a bitter campaign replete with charges and counter-charges from both sides—a management-supported Anti-Featherbedding Committee and a union-sponsored Arkansas Committee for Railroad Safety. (RA, Oct. 27, p. 9.)

One railroad officer, reviewing the campaign and its results, laid the defeat to this: "The ordinary working people, the ones you have to depend on in something like this, just don't like to see other people put out of work. It's that simple."

Dewey Argues '58 Act for NYC

► **The Story at a Glance: The 1958 Transportation Act is constitutional in all its provisions, former New York Governor Thomas E. Dewey told a three-judge federal court in Newark, N. J., last week. Mr. Dewey appeared as counsel for the New York Central.**

The question of constitutionality is the central issue in hearings before the court to determine if the New York Central, the Erie and the Susquehanna will be permitted to abandon Hudson River ferry service under the Transportation Act.

The NYC and the Erie won ICC permission to discontinue the ferry services in 1957, but the state of New Jersey appealed this ruling to the U. S. District Court. It was held that the Commission lacked jurisdiction under then existing laws. Before the case could be heard by the Supreme Court, the Transportation Act of 1958 specifically placed jurisdiction in such cases with the ICC (RA, Aug. 18, p. 9).

The ICC has upheld the railroads' rights under the new Act. But New Jersey is attempting to obtain a permanent injunction to prevent the railroads from ending the ferry service. Ferries have been operating under a temporary injunction since September.

As Mr. Dewey presented it, the issue is the power of Congress to make law in the interest of the nation as a whole. This power, Mr. Dewey declared, is supreme. The public interest in the case is not that of the State of New Jersey but the nation, he said. It is "the 175,000,000 people in the United States who are entitled to a solvent railroad system."

Robert W. Ginnane, General Counsel of the Interstate Commerce Commission, argued in support of the ICC notice permitting discontinuance of the ferries. A decision forcing the railroads to continue operation of the ferries contrary to the intent of the Act would, he said, throw government into chaos and result in "government by law suit." This would result, he said, because such a decision would take away from the Interstate Commerce Commission power to regulate interstate commerce. The ICC, he pointed out, has never been subject to judicial review. A ruling against the federal government would be, he said, a thrust against private enterprise and a step toward the eventual nationalization of all railroads.

The court reserved decision after hearing the arguments.

Watching Washington *with Walter Taft*

• **CONGRESSIONAL CLIMATE** for railroads should not change much as a result of last week's election. Like its predecessor, the new Congress will be under Democratic control—but more so. That party's gains of thirteen seats in the Senate and nearly 50 in the House, of course, will greatly strengthen its majority position. But positions on legislation of interest to railroads have not been taken along party lines. Labor influence, however, might be stronger, since the unions generally supported the Democrats.

• **ONE RESULT** will be a change in the consist of committees. Their memberships will include more Democrats and fewer Republicans. But chairmanships of committees handling transport legislation will not change. Those Committees on Interstate and Foreign Commerce of the Senate and House, respectively, will be headed again by Senator Magnuson of Washington and Representative Harris of Arkansas.

A VETERAN member of the Senate committee, and good friend of the railroads, will not be back. That's Senator Bricker of Ohio, the committee's former chairman and its ranking minority member in recent years. He was defeated in his bid for a third term in the Senate where he was served since 1947. The committee's ranking minority member in the next Congress will be Senator Schoeppel of Kansas, who did not have to run for reelection this year.

DEFEAT came to all Republican members of the committee who did have to run. In addition to Mr. Bricker, the losers are Senators Potter of Michigan, Purtell of Connecticut, and Payne of Maine. Winners in the election were the only two Democratic committeemen involved—Senators Pastore of Rhode Island and Yarborough of Texas.

• **FIRST POST-ELECTION JOBS** of the committee will include selection of a staff for its comprehensive transport study. The study is the seven-part inquiry called for by Senate Resolution 303. It will get into problems untouched by the 1958 Transportation Act. Appointment of the staff awaited the election. The outcome indicates that minority clearance of appointees will now be by Senator Schoeppel instead of Mr. Bricker.

• **ON THE HOUSE SIDE,** all Democratic members of the Interstate Commerce Committee won reelection, but at least seven of the Republican members will not be back. Among the missing will be the four senior Republican members. These are Representative Wolverton of New Jersey, ranking minority member and former chairman, and Representatives O'Hara of Minnesota, Hale of Maine and Heselton of Massachusetts. Mr. Hale was defeated, while the other three did not seek reelection. Thus, Representative Bennett of Michigan will become the committee's ranking minority member.

Fare Hike Upheld

Chicago Suburban Increase Gets Final ICC Approval

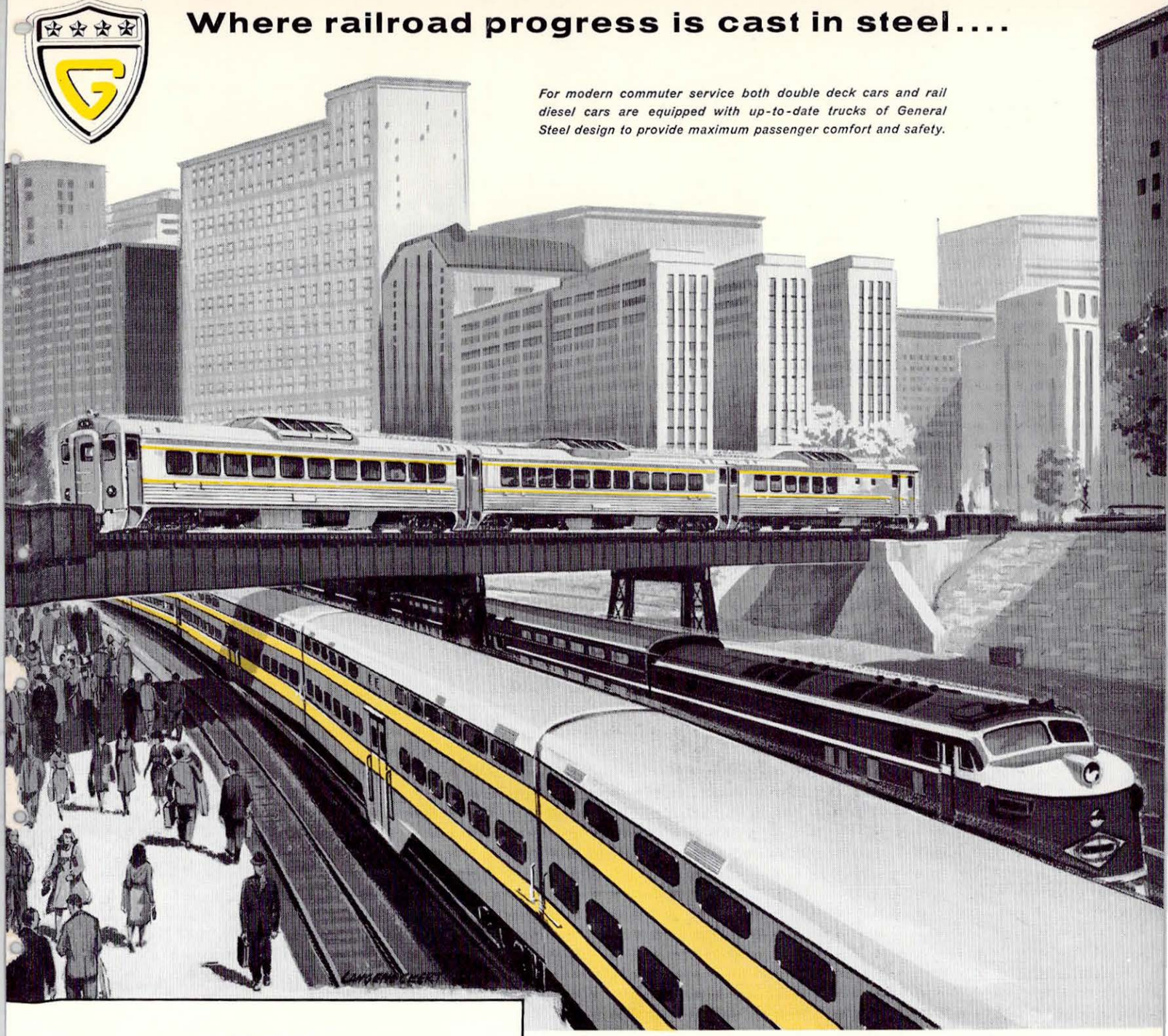
The ICC has ordered increases in Milwaukee passenger fares in the Chicago suburban area. The order, overriding the Illinois Commerce Commission, came after further hearing of the case in which the U. S. Supreme Court held that the original order of the ICC—approving the increases—was unsupported by necessary findings.

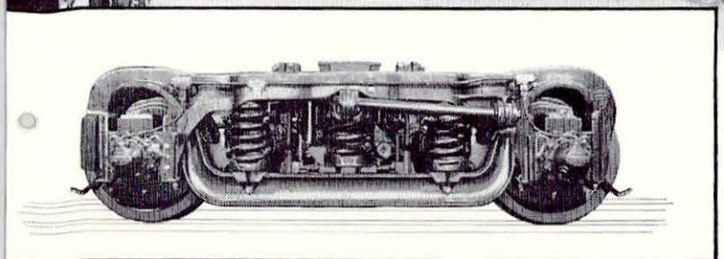
Increases will raise monthly commutation rates and other suburban area fares. The commission calculates that they will add about $798,170 a year to Milwaukee revenues.

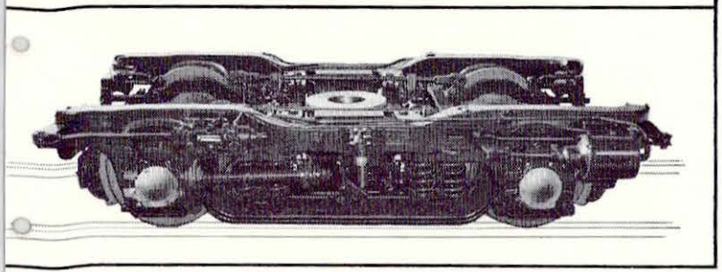
The hassle over Milwaukee fares began in 1955, when a 21 per cent increase went into effect. But the 21 per cent hike was refunded to commuters after the unfavorable Supreme Court decision. The present increase, which must become effective before Feb. 6 under the ICC order, averages 42 per cent. The increase won't, the road feels, cover its suburban service deficit.

Where railroad progress is cast in steel....

For modern commuter service both double deck cars and rail diesel cars are equipped with up-to-date trucks of General Steel design to provide maximum passenger comfort and safety.







A combination of imaginative engineering and down-to-earth manufacturing know-how has enabled General Steel to make vital contributions to the growth and development of industry throughout the world. Their one-piece steel castings are the culmination of design and production skills unique with the company.

Specify General Steel products . . . they will pay you dividends through many years of maintenance-free service.

Latest design 4-wheel equalized truck for direct drive rail diesel cars assures exceptional riding comfort and safety . . . minimum upkeep cost.

Modern 4-wheel equalized truck for double deck commuter cars. Large Central Bearing eliminates lateral shimmy and side bearing upkeep . . . increases mileage between wheel turnings and reduces operating costs.

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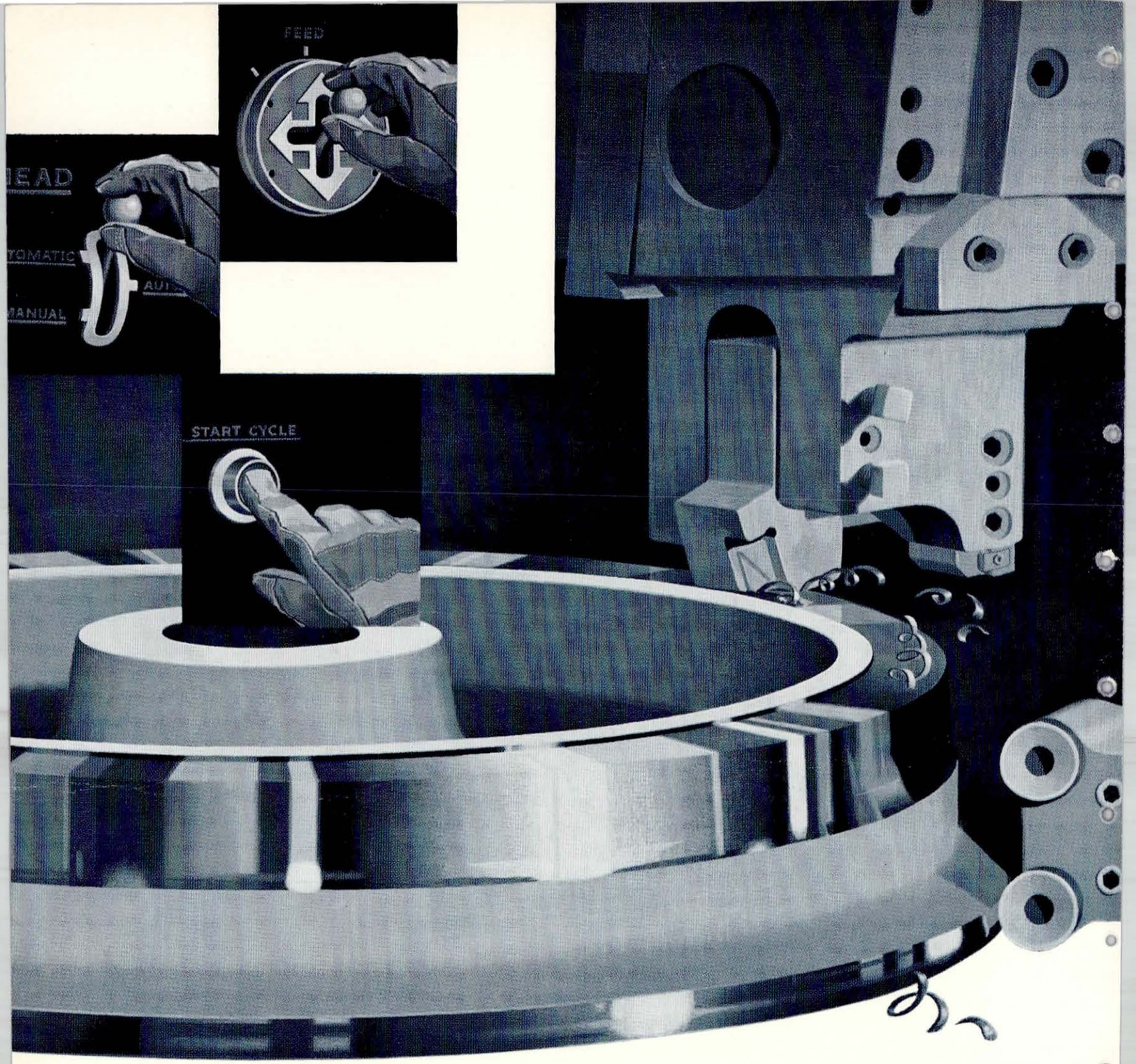

Automatic precision machining equipment assures the dimensional accuracy of

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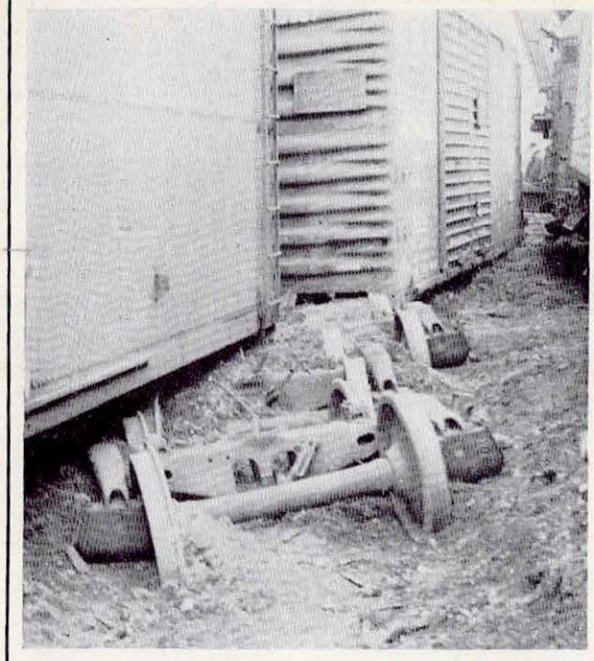
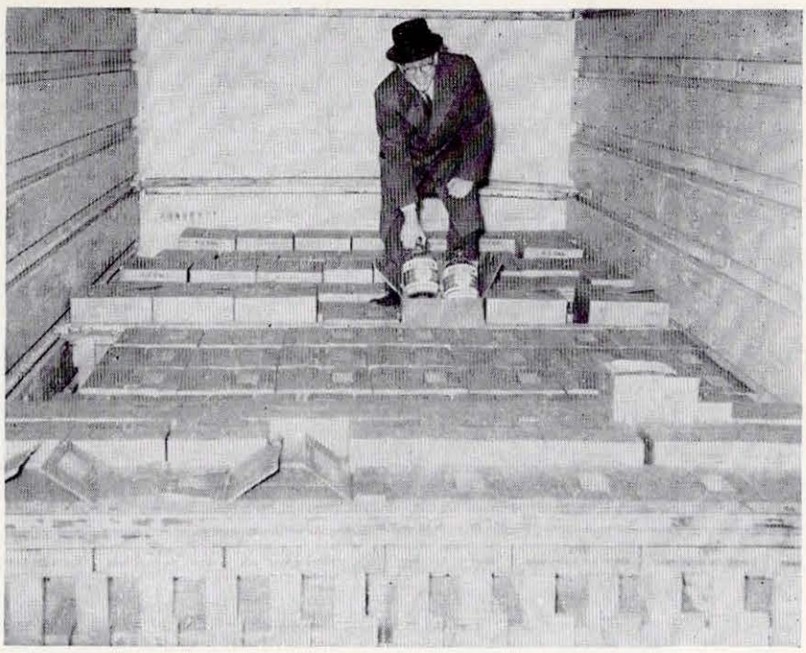




When GARX DF Car Landed Like This. . . The Lading Looked Like This. Result: No Claims

Minor dents in a few cans constituted the only damage to $25,000 worth of paint when this General American DF car was derailed. The car wound up crosswise of the track and tipped at a 45-degree angle with all running gear and safety appliances torn loose. The lading (76 pails and 1,704 cartons of Rust-Oleum) was inspected after a wrecker moved the car over to the west side of the track for re-railing. The Evans loader equipment used to secure shipment consisted of 8 deck boards, 4 bulkheads and 22 crossmembers. The A and B ends of the car were loaded in three units with the doorway area open. All crossmembers were intact after the derailment and there had been no apparent shift in lading. A number of the cartons contained gallon glass bottles. No exceptions were taken by the consignee and the railroad paid no claims.

Moore Urges Injury Elimination

It's quite possible, Jersey Central President E. T. Moore contends, "to make an injury on the railroad as rare as it is in an office full of clerks." But, he says, such a utopian situation demands the best of management, the safety department and the employees themselves.

Mr. Moore, speaking at the closing session of the Railroad Section of the National Safety Congress, called on railroad safety officers to use more of the inquiring-mind approach.

"We're too likely to accept things as they are," he noted. "We must apply more imagination to all our problems."

He also urged safety men to be courageous in their work.

"Too many . . .," he said, "are afraid to upset the apple-cart. They lack the courage to fight for the things in which they believe. They don't want to put other staff members on the spot by pushing too hard for changes in operating methods or for corrections of physical hazards.

"They go along, hoping nothing will happen.

"This may increase the safety director's popularity, but it certainly isn't advancing the cause of safety."

The safety officer, Jersey Central's president observed, must be seven men in one —detective, prophet, diplomat, public relations expert, engineer, administrator and even "at times, Simon Legree."

P. H. Verd, vice president—personnel, Elgin, Joliet & Eastern, also called on safety officers to "become disciples of safety—and convey that spirit to your men."

"Your men," he said, "will do only as good a job as you insist on. . . You are the key to the success of a safety program."

Mr. Moore referred briefly to the CNJ's recent commuter train disaster at Newark Bay—a tragedy which gives "vital evidence of the importance of the safety man's work."

As for the accident itself, in which two diesel units and three coaches plunged through an open draw-bridge, Mr. Moore said that the precise cause isn't known now, may never be known. The secret, he said, "may be sealed in the death" of the two men in the cab of the lead locomotive. (RA, Sept. 22, p. 36.)

Locomotive Bells Honor Railroad War Dead in N.H.

Five retired steam locomotive bells, once destined to end up in private antique collections or in museums, now rest at New Hampshire's Cathedral of the Pines, memorials to the United States and Canadian railroaders killed in World War II.

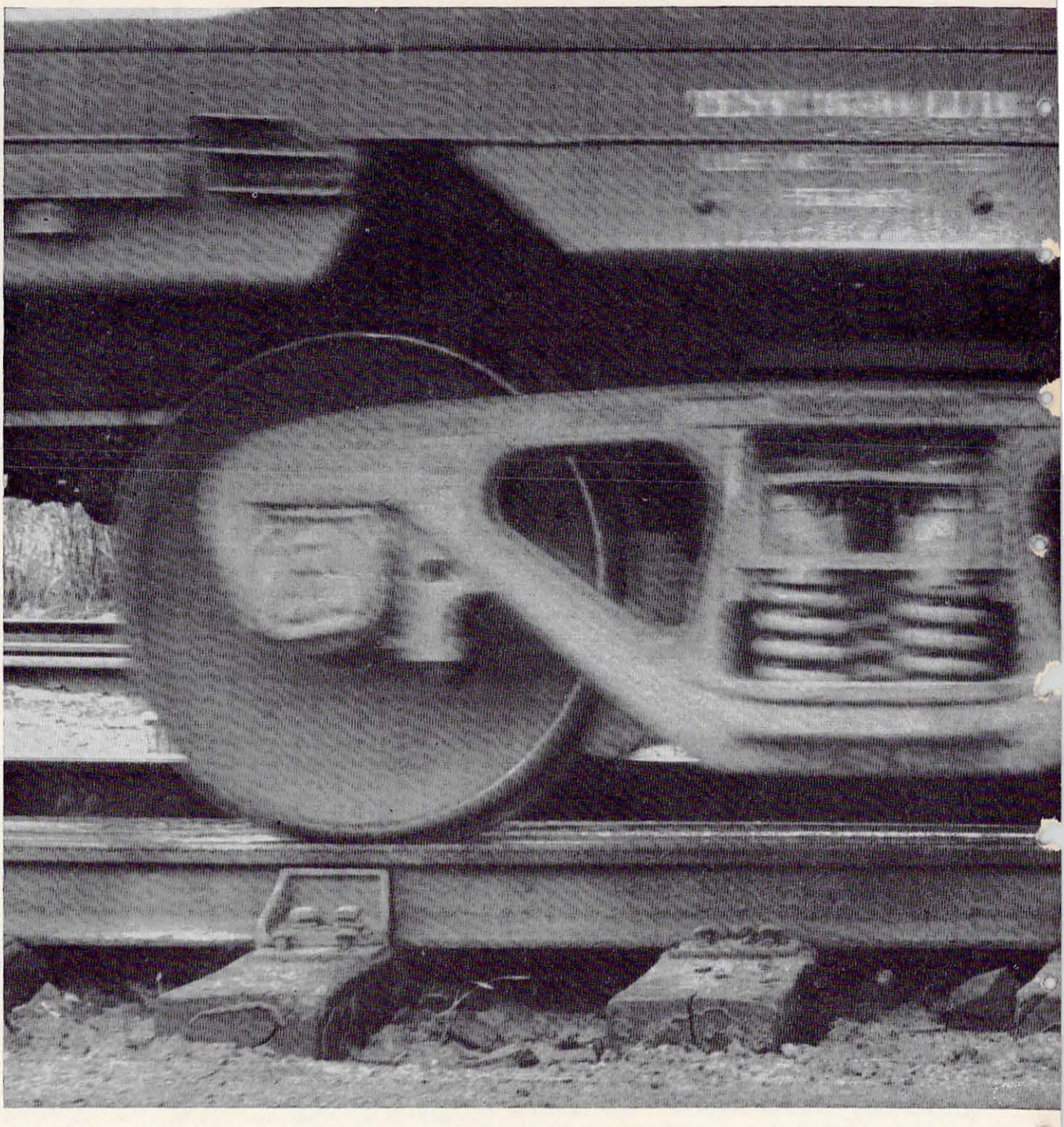
More than 200 Massachusetts railroad men and women attended the presentation ceremonies in Rindge, N. H. Nine New England and Canadian carriers were represented officially.

Douglas Sloane, who founded the Cathedral in memory of a son killed in action during the war, called the gift of the bells "a beautiful tribute to our unforgotten soldier railroaders."

The bells were presented by the Railroad Community Committees of Boston, Worcester and Springfield. The three groups, made up of rail employes, obtained the 200-pound bells from the Boston & Maine, Canadian National, Canadian Pacific, New Haven, and New York Central Railroads.

Francis J. Stipek, New York Central trainmaster who is chairman of the Worcester committee, told the gathering: "More than 350,000 railroad men and women served in the United States armed forces during World War II. The fragmentary records available indicate their losses were heavy. We pray God that the peace our dead helped to gain will last forever."

The Cathedral's out-door "Altar of the Nation," built of stones from the 48 states and from overseas battlefields, has been recognized by Congress as a national war memorial.



Where payloads roll on roller bearings . . . Gulf makes things run better!

NEW GULFCROWN R.R.

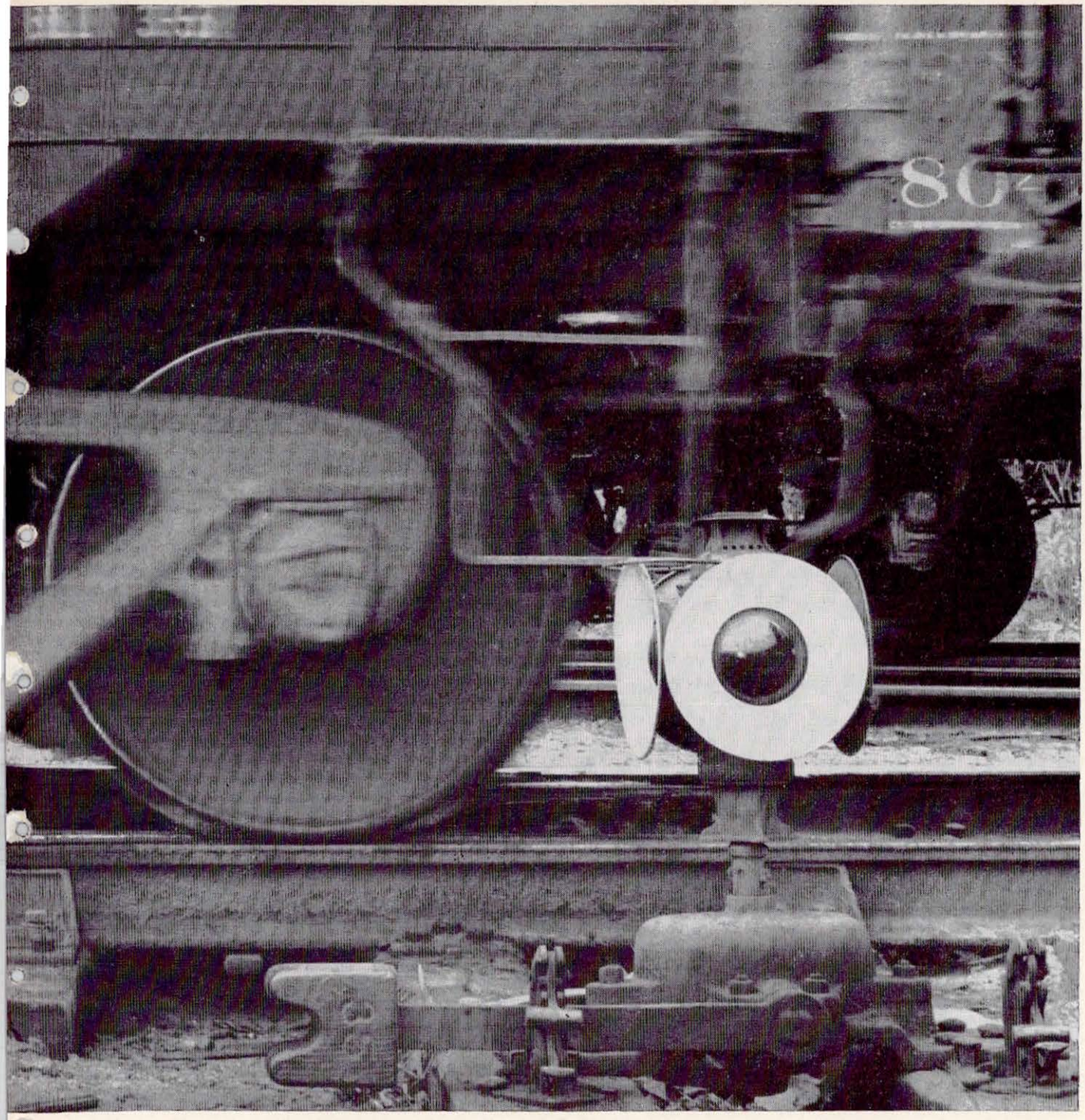
New Gulfcrown R.R. is a lithium base grease especially developed to provide better lubrication for railroad car roller bearing journals. It has been tested and approved against A.A.R. Specification No. M-917-56.

Stands up at high temperatures. New Gulfcrown R.R. has been used successfully in bearings operating at temperatures as high as 250° F.

Pumps freely at low temperatures. Gulfcrown R.R. Grease doesn't become hard, or unworkable, even when subjected to temperatures as low as 0° F.

Won't thin out at high speeds. Its excellent mechanical stability keeps Gulfcrown R.R. from thinning out under the churning action of high speed bearings.

Resists washing action of water. Won't wash away even under wettest conditions. Gulfcrown R. R. also provides protection against rust.



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Excellent oxidation stability. New Gulfcrown R. R. Grease is effectively inhibited against oxidation to insure long life, both in storage and in use.

Gulfcrown R.R. Grease is available now, in 35 lb. pails, 100 lb. drums and 400 lb. drums. Let us prove that you will get more effective roller bearing protection—and reduced maintenance costs—with this outstanding new grease. Write or phone.

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GULF

LAYING ONE PANEL after another, the Industrial Brownhoist locomotive crane builds the Great Northern's new branch line at the rate of 6,000 ft per day. The loaded cars on the tangent track at left carry sufficient track panels for one full day's work. The line was completed slightly over two months after the ICC had approved the GN's application to build.

Here's a New Way to Build a Branch

Great Northern engineers faced the problem of building a 15½-mile branch line economically—and in a hurry. They solved the problem by pre-assembling the track in sections. This permitted two six-man gangs, each working an eight-hour shift, to lay about 6,000 ft of track a day.

Need for speed and economy dictated a recent decision of the Great Northern to use track panels, rather than conventional track-laying methods, for building a new branch line.

The ICC approved the GN's application for the new trackage last July 16. One week later, contract for the grading had been let and the work begun. This required moving about 400,000 cu yd of material.

A little more than two months after the application had been approved, the new branch was completed. The first revenue train operated over the line three days later. Including the 225 acres of right-of-way purchased, the project cost about $1,182,000.

The line was urgently needed to provide a rail link from GN main track at Glasgow, Mont., to a site 15.5 miles north where a new $100-million Air-Force base was to be constructed. Much of the construction material for the new base could be shipped via railroad.

To expedite completion, the GN considered a method of track laying it had used previously for industry and secondary tracks. The method involved preassembling the track in panels one rail-length long and laying them one after another. The plan would result in a track with "square" joints, i.e., joints opposite each other. Since the new branch would carry freight only, "square" joints were not considered objectionable and the plan was adopted.

Culverts and bridges required for waterways and cattle passes were placed and erected by railroad forces in advance of the grading. Eight timber bridges, of creosote-treated material, and 74 culverts were required.

The track panels were preassembled at the GN's Glasgow yard in 33-ft and 39-ft lengths. Each was complete with ties, rails, tie plates and joint bars. The bars were bolted in pairs to one end of each rail.

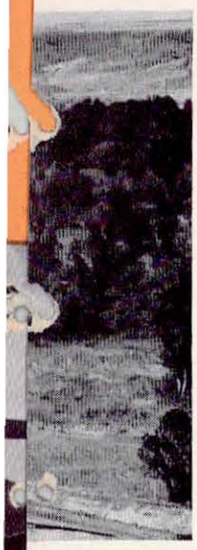
Rail used was secondhand, and ranged from 77½ to 130 lb. Tie plates also were of secondhand material. The ties, a combination of new and secondhand, were all oil-treated. A total of 30,000 new and 20,000 used crossties were required. These were applied 18 to a 39-ft panel, and 16 to a 33-ft panel.

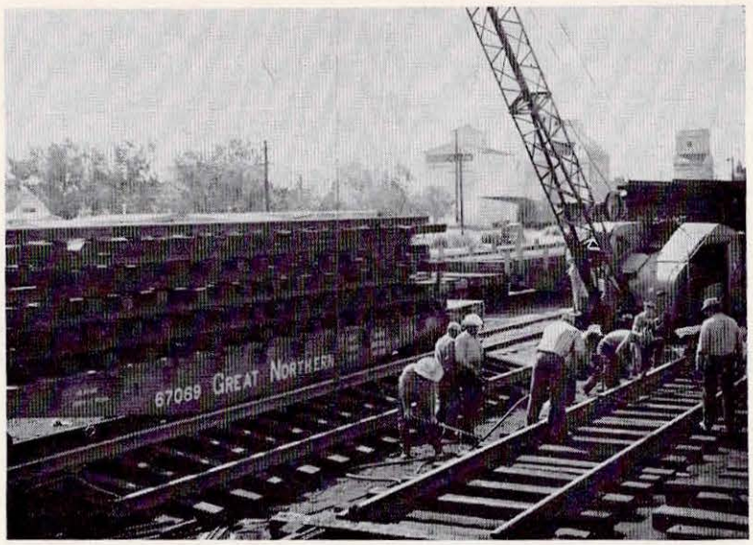
The panels, assembled at the rate of one every 10 min, were loaded eight on a flat car and taken out for unloading in strings of about 19 cars. The strings were pushed up behind a 40-ton diesel locomotive crane working at the end of the track. The crane handled both the unloading and placing of the panels.

The ballast had been spread by the grading contractor in advance of the unloading crane. About 50,000 cu yd of pit-run gravel was used for ballast and subballast. The gravel, secured from local pits, was trucked and spread by the contractor on the finished grade. The subballast was bladed, while the ballast for filling the cribs and shouldering was windrowed on each side.

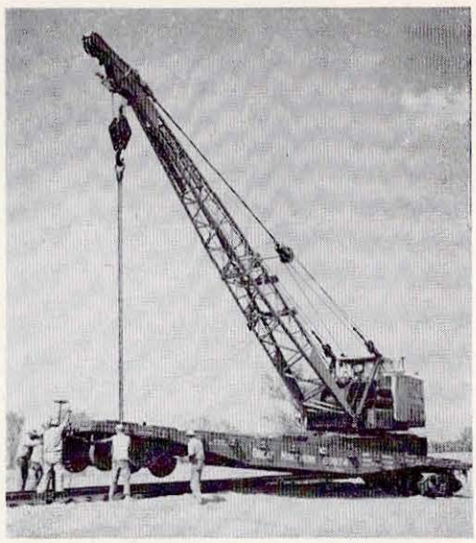
As soon as a car of track panels was unloaded, it was lifted off the track by the crane. The next car was then moved up and unloaded. Immediately behind this operation was a track-lining machine, followed by a Ballast Regulator and a production tamper. The two latter machines pulled the ballast from the windrows into the cribs and tamped the track.

Approximately 2,900 panels were constructed, and were laid on an average of 150 panels per mile. Crews of six men, working in two 8-hr shifts, were able to place about 6,000 ft of track per day.



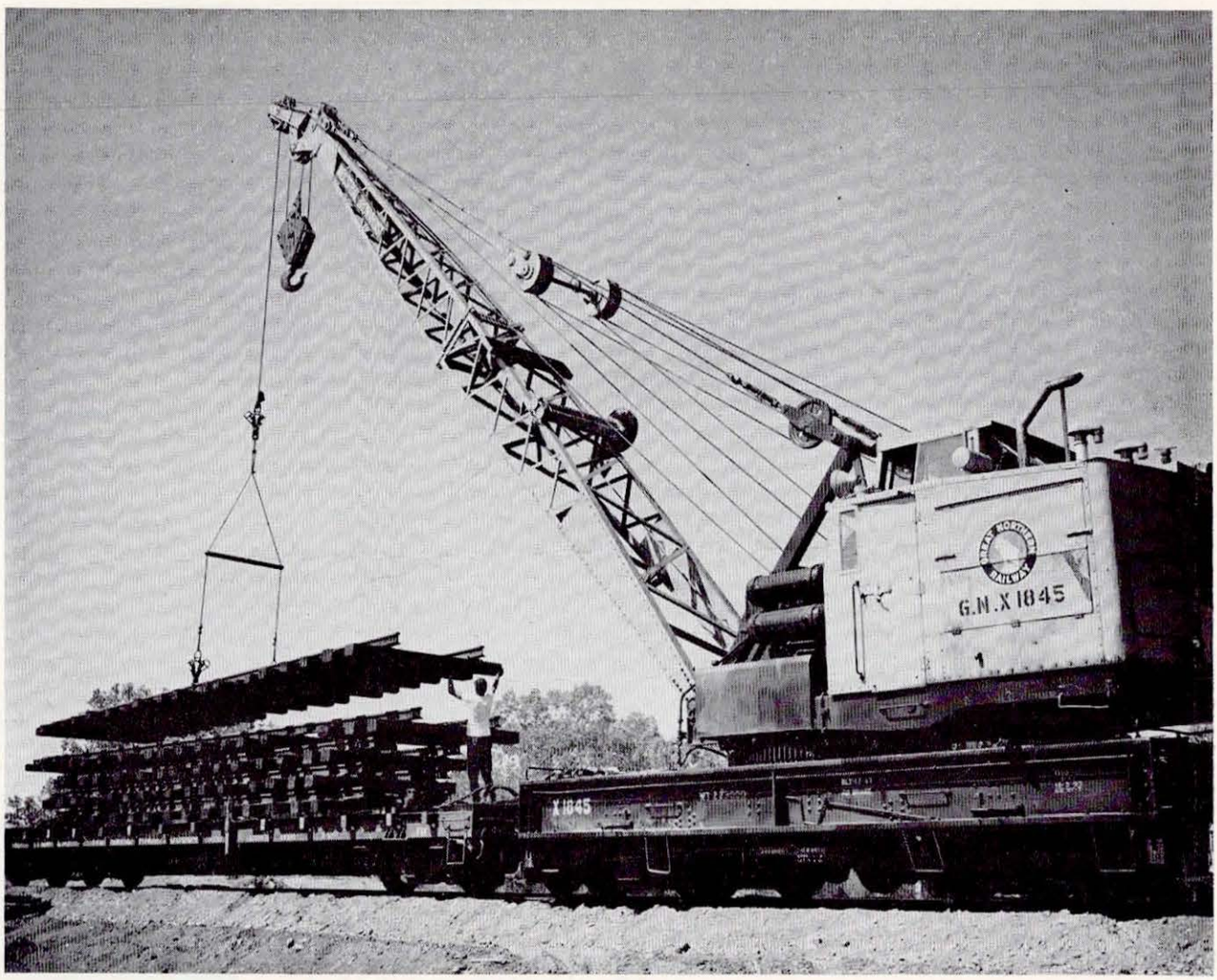


ASSEMBLY OF PANELS took place at the road's Glasgow yard. A Bucyrus-Erie crawler crane assisted in the handling and loading of the completed panels. One panel was assembled every 10 min.

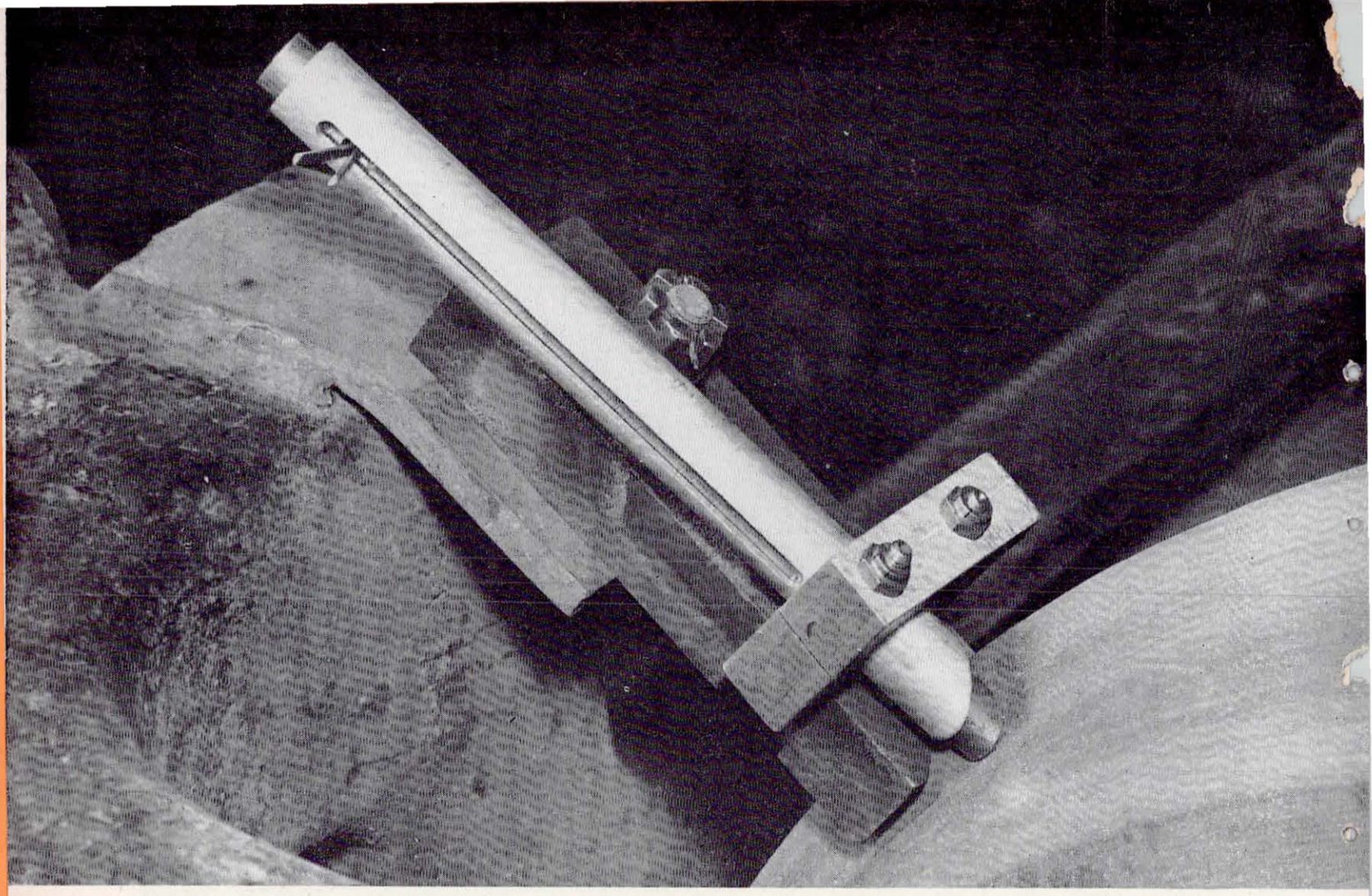


UNLOADED CARS were set off the track by the crane so that the next loaded car could be brought up for unloading.

Line: Pre-Fabricated Track



LOADED CAR IS TOWED by the 40-ton locomotive crane. Panels are picked up by two rail tongs suspended from a bridle bar, then swung 180 deg around crane.



READING DIESELS were equipped for test with Nalco flange lubricators using these "moly" lubricating sticks. Savings in reducing curve-worn rail gave high return on investment. An additional major saving is expected in flange wear. Sticks lasted over 2,000 miles each. Four flange lubricators were used on each diesel unit on wheels Nos. 1, 2, 7 and 8.

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The service life of curve rail can be increased 35 per cent by use of flange lubricators equipped with molybdenum disulfide sticks. Tests of this technique by the Reading indicate it produces a 65 per cent return on the investment.

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Development and use of a rail conditioning compound did not improve the situation. The compound was sprayed on to cover the head and sides of the rail. The compound delubricated the oil or grease on the rail, which resulted in an abrasive action similar to that caused by sand. The compound helped rail adhesion, but accelerated curve wear on the rail.

To observe rates of rail wear, seven different curves were profiled for the study. Results indicated that curve rail wear was serious. To obtain information on the amount of curve wear produced by locomotives and by cars, tests were conducted on what is known as Raricks Curve.

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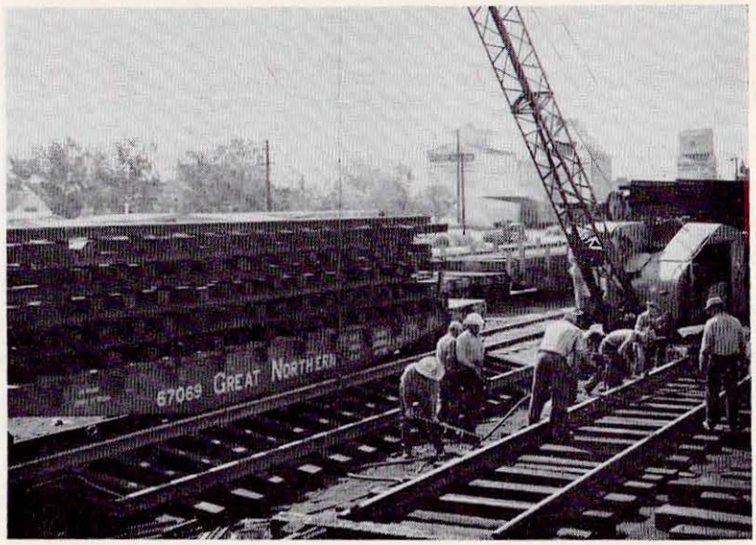

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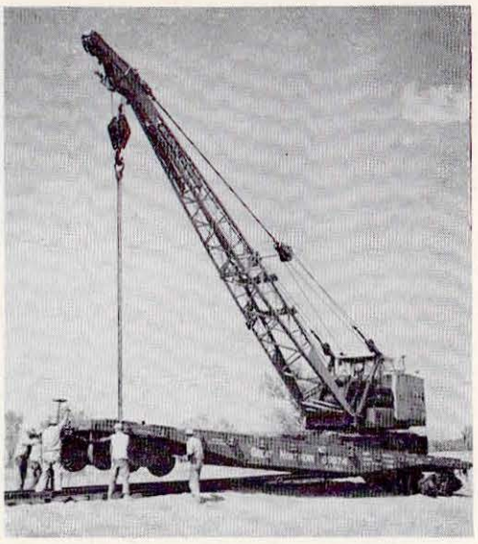

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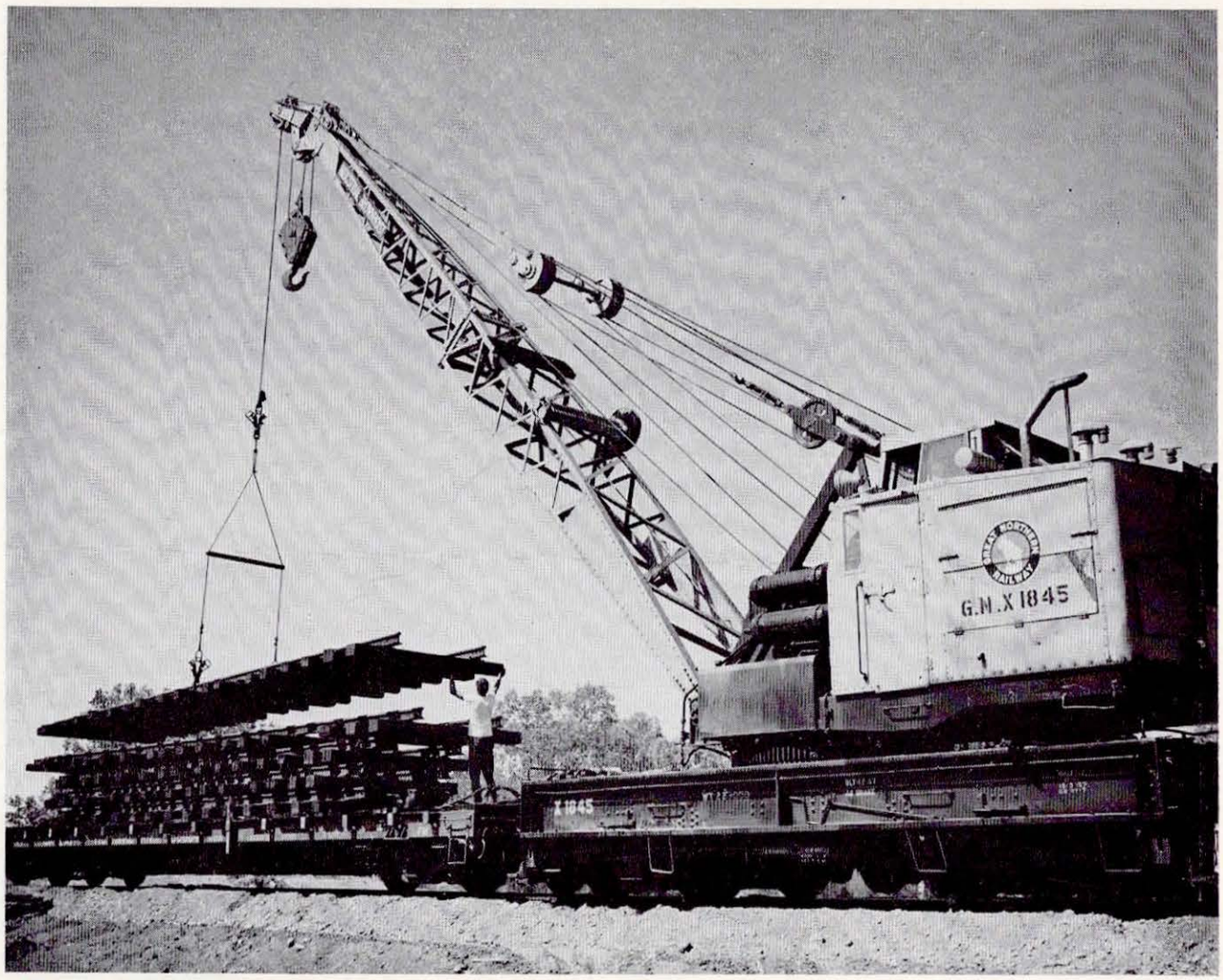

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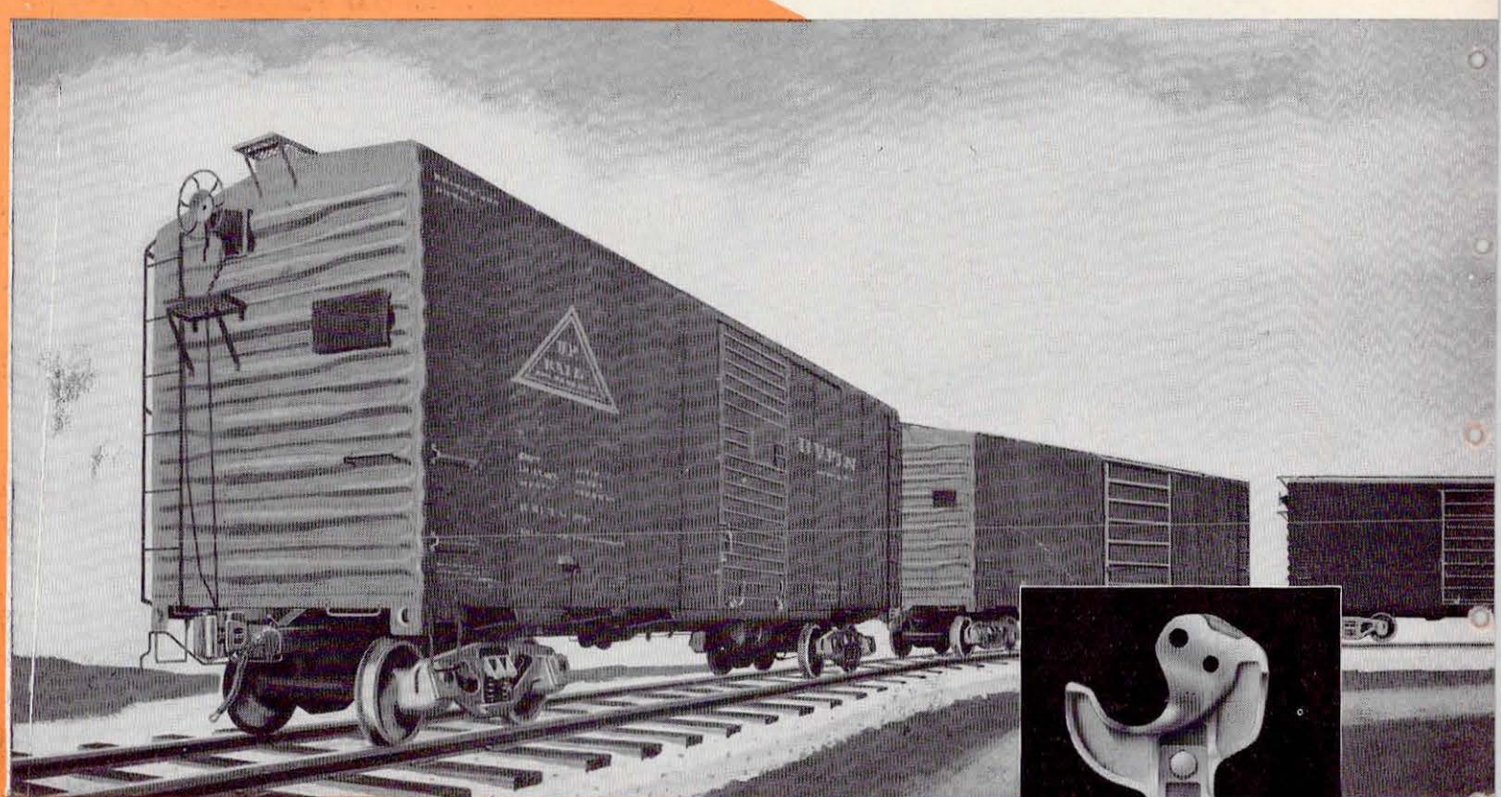

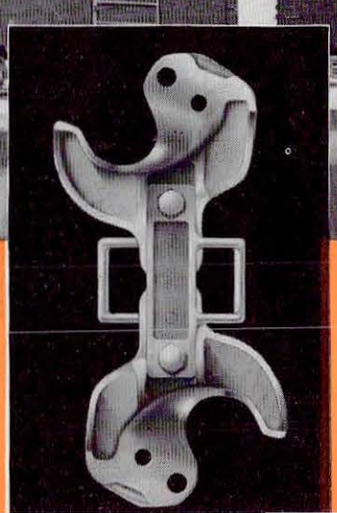

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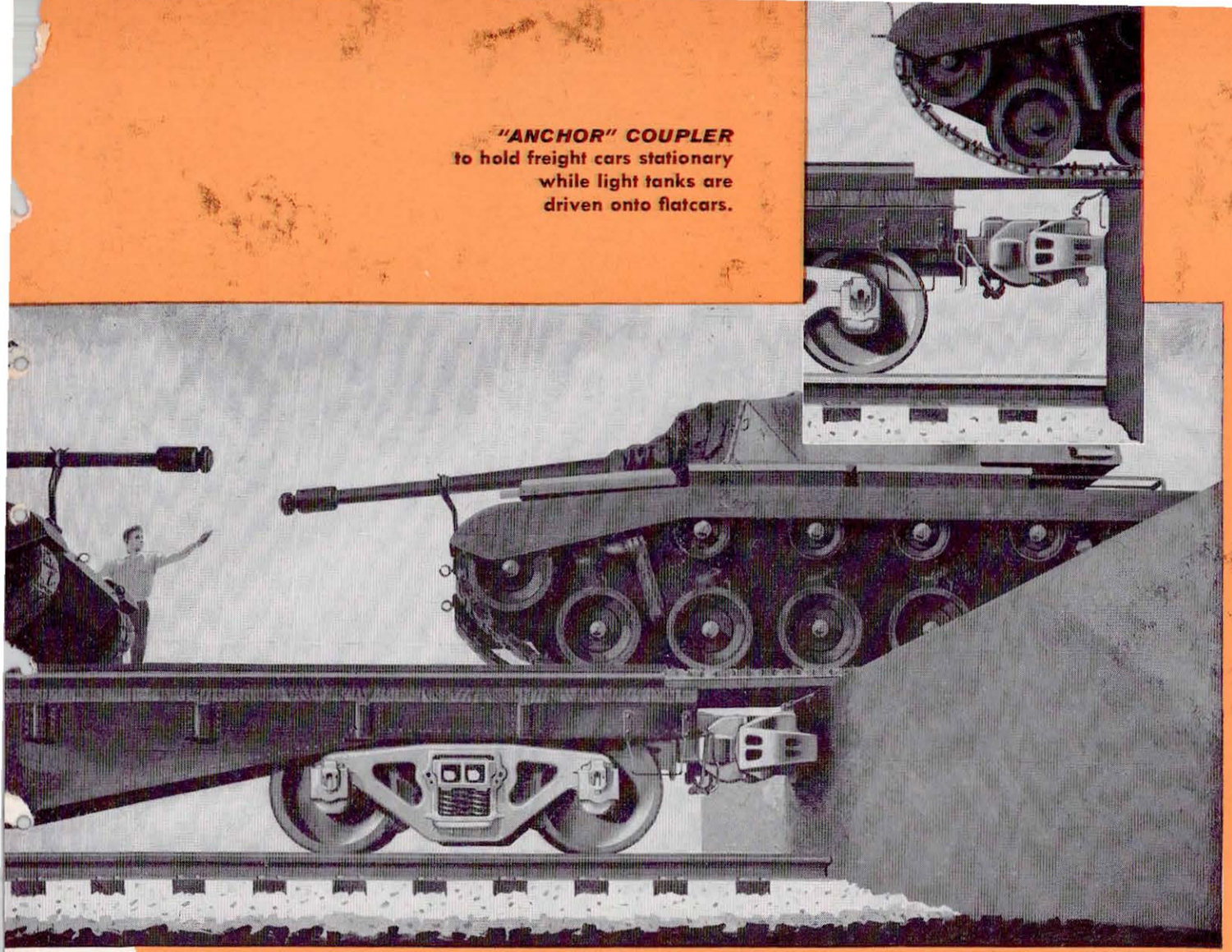

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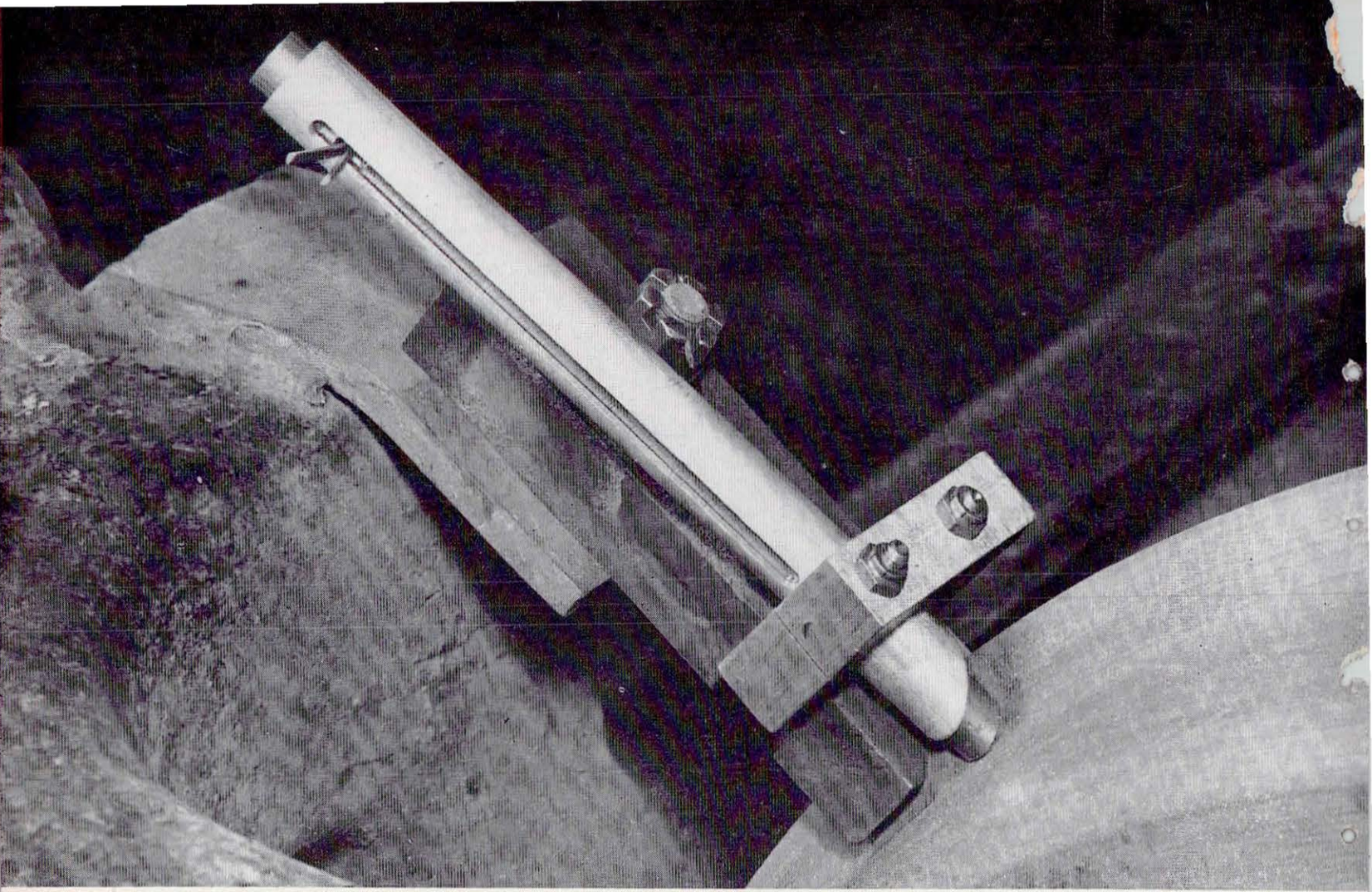

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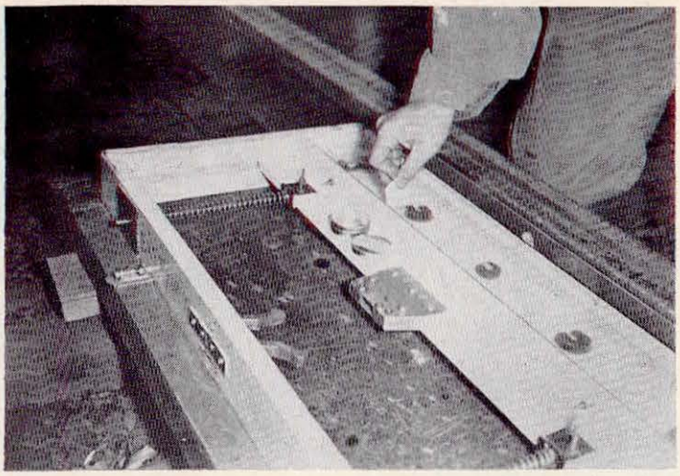
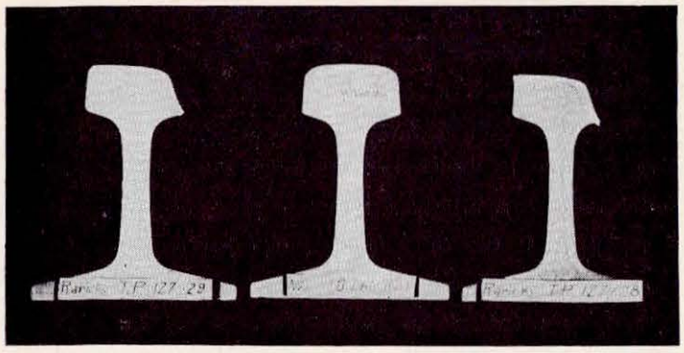
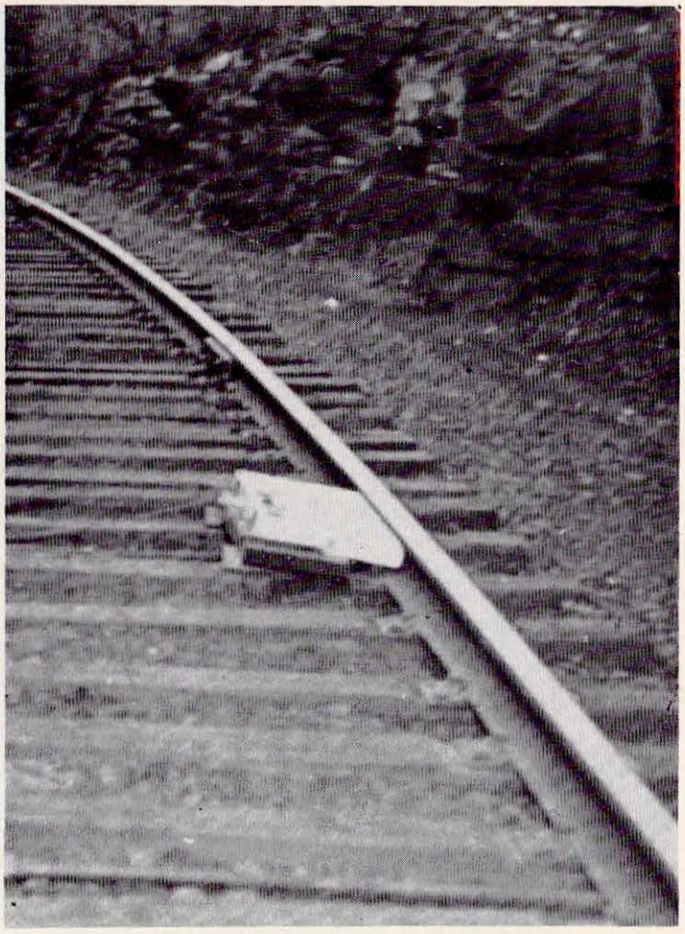


ABRADED METAL from locomotives and cars is taken from catch box trays by white-paper-covered magnet and then brushed into collecting tins.



BECAUSE OF EXTREME RAIL WEAR on Raricks curve new rail was laid prior to flange lubricator tests. Cross-sections compare new rail (center) with worn rail removed.



CATCH-BOX TRIGGER was pulled after last locomotive wheel passed, to separate the abraded metal collected from the locomotive and cars.

Rail Life with New Lubricant

To separate the abraded metal collected from the diesel locomotive and the cars of a train, the method employed by the Association of American Railroads and the Bessemer & Lake Erie was duplicated, with some modification. The method uses a catch box 32 in. by 16½ in. by 3 in., with two sliding trays 30 in. by 4 in. by 1½ in. The top tray was equipped with a spring loaded slide and a pull trigger. The bottom tray collected the abraded metal of the locomotive. After the last wheel of the locomotive passed over the box, the trigger was pulled with a pull chain and the top tray was sprung into position to catch the abraded metal from the cars.

Each tray was equipped with five Alnico horse shoe magnets over which a transparent plastic tray was fitted. The test personnel could catch all the abraded metal because of the attraction of the magnets and the smooth surface of the plastic tray. The abraded metal was removed from the trays with another magnet covered with thin white paper, placed in sealed tin containers, then shipped to the laboratory for weighing and analysis.

The Reading drew the following conclusions from the tests:

1. It is impractical to conclude that lubrication between the wheel flange and the gage side of the high rail of a curve will eliminate curve-worn rail. Nevertheless, it is evident that a lubricating method is desirable, but not at the expense of wheel-to-rail adhesion.

2. It is reasonable to assume from the test data that use of molybdenum disulfide improves curve rail life by 35 per cent.

3. The Catawissa grade (which includes Raricks curve), used for adhesion and curve worn rail tests, has approximately 47,000 ft of curved rail, 4 deg. or sharper. On the basis of 1.8 cent per foot per million tons of traffic, and approximately 12 million tons of traffic annually, the total yearly cost for curve worn rail on a 35 mile grade is $10,152. On the basis of a 35 per cent improvement in rail life, the annual saving would be about $3,550 on the Catawissa grade.

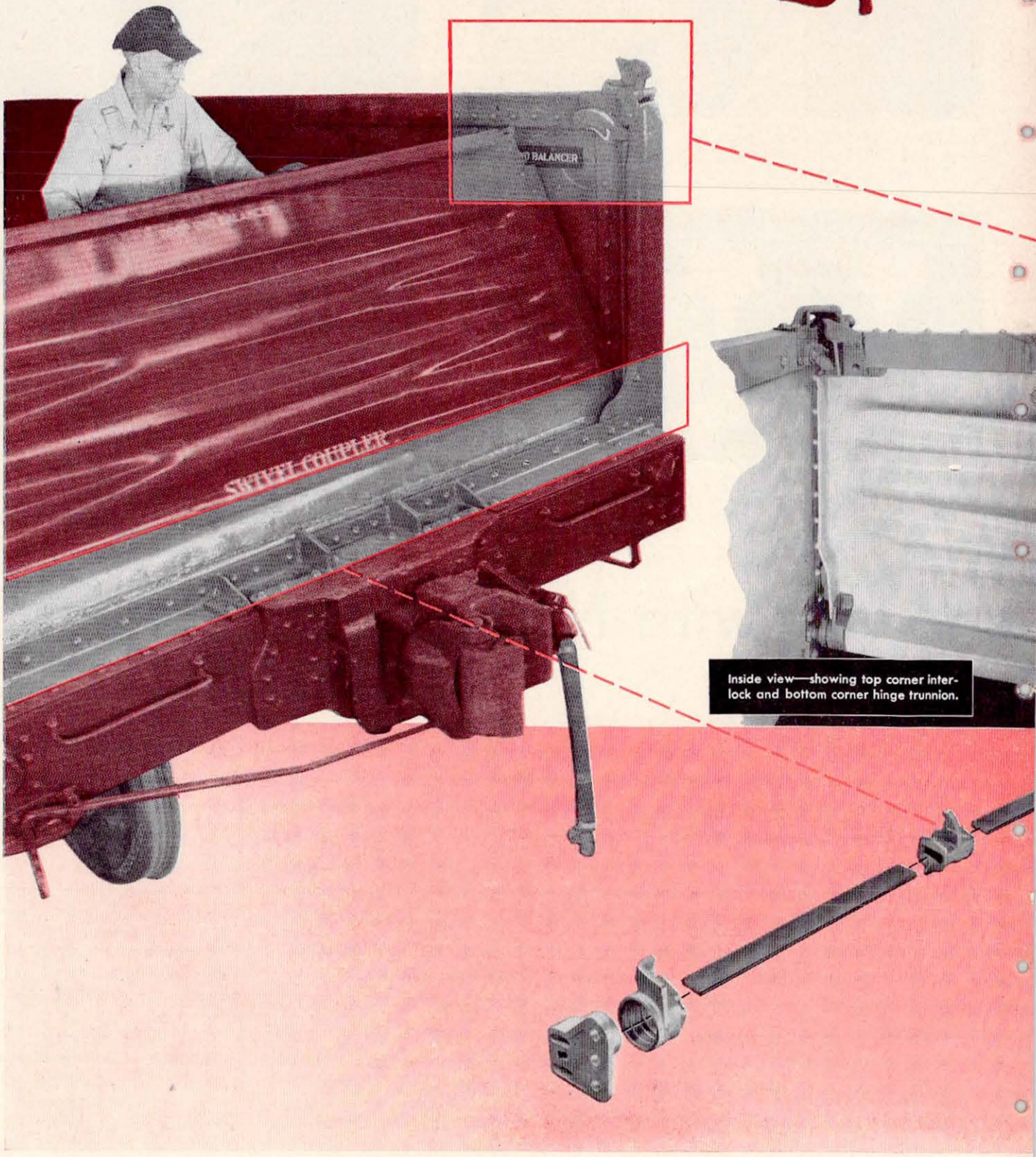
4. Records maintained during the tests showed the flange "moly" sticks had an average life of 2,092 miles each. Cost of the sticks for one year of lubrication is approximately $1,250, or a net annual saving of $2,300 on the Catawissa grade.

5. Estimated cost of applying four flange lubricators, at $111.75 per unit for 31 units, is approximately $3,500. Therefore, the return on investment is approximately 65 per cent.

6. Since the diesel units equipped are pooled in services beyond the Catawissa grade, the savings are cumulative on all curves where units are operated, because stick life is based on pooled services. Stick life was based on reported speed recorder mileage when sticks were replaced.

7. A major saving with flange lubricators should be in locomotive flange wear.

Cast Steel INCORPORATED DROP END UNITS Speed

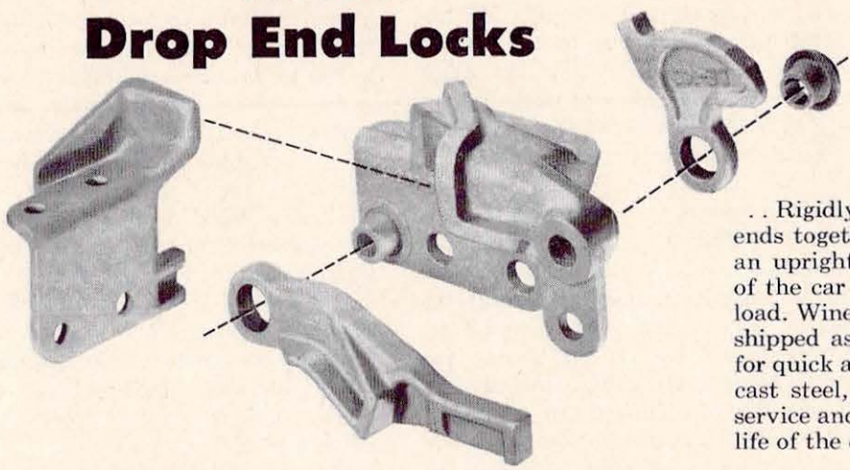


Inside view—showing top corner interlock and bottom corner hinge trunnion.

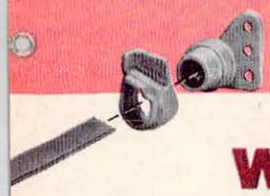
Service.. Sustain Structure

For outstanding economies . . . increased safety factors . . . improved strength and durability for the life of the car—Wine Drop End Units (Locks and Balancers) form *the perfect* combination!

WINE
Drop End Locks



. . Rigidly interlock gondola sides and ends together—securing the ends in an upright position. Top corners of the car cannot spread regardless of load. Wine Drop End Locks are shipped as an assembled unit, ready for quick application. Made of electric cast steel, they insure maximum service and durability throughout the life of the car.



WINE
End Balancers

. . . Eliminate the necessity of using *four or five men* to close a drop end for car loading! Multiple spring steel torsion bars, incorporated between the center casting and the two outer hinge trunnion castings, permit *one man* to readily close the heaviest drop ends without assistance. Available for easy application on most drop end gondolas.

The Tie Renewal Rate Continues Down

Crosstie producers hear that tie installations will sink lower than current levels. Shrinking railroad mileage, longer tie life and more careful tie inspection are cited as reasons.

"Sometimes we ask ourselves if it is smart to continue to improve our product to a point where we lose a large part of our market. . ."

The speaker—T. J. Turley, Jr., president, Kentucky Tie & Lumber Co.—was talking about the shrinking market for railroad crossties. He was addressing the annual convention of the Railway Tie Association at Memphis, Tenn. Mr. Turley had just quoted figures showing that the number of ties used in replacement by Class I railroads declined from approximately 87 million in 1920 to 23 million in 1956.

It can be safely assumed, he said, "that the life expectancy of a tie is at least four to five times greater than it was shortly before 1920 when very few ties were treated." He gave credit "for this vast improvement in service" to three developments: (1) Wood preservation; (2) improvement in quality and grade; and (3) protection of ties in track from mechanical wear.

It was evident, however, from Mr. Turley's further remarks, that he still believes "it is smart to continue to improve our product. . ." He said: "If and when our industry fails to progress—stops trying to improve its product, and fails to give customers the best possible service—then decay will truly set in."

Dark Picture for Producers

Comments by other speakers rounded out a dark picture for the tie producers. In two broad strokes, this is what is seen ahead:

Short range—Installation in 1959 of only 20,707,003 ties.

Long range—A continuing downtrend in tie renewals until they reach the neighborhood of 16 to 19 million ties per year.

The estimate of 1959 tie installations was in tabulations accompanying an address by O. O. Albritton, chairman of the Purchases and Stores Division, AAR. Mr. Albritton is vice president, purchases and Stores, of the Illinois Central. He explained that the estimate of tie installations next year, along with the other statistics he presented, were compiled by the P & S Division. These figures put the estimated purchases of crossties during the latter half of 1958 at about 5.5 million and the estimated purchases for 1959 at about 15.4 million.

Added up, this statistical presentation, said Mr. Albritton, does not "paint the kind of picture that people in the tie industry would like to see during the months immediately ahead." But he had this one hopeful comment: "However, you well know this situation can and will change rapidly with even a limited improvement in railroad income."

The prediction that tie renewals would sink to the level of 16 to 19 million annually was made by L. C. Collister, manager, tie and timber treating department of the Santa Fe System.

In presenting data to show the declining trend of railroad crosstie renewals, Mr. Collister pointed out that renewals on U.S. roads in 1927 were only 67 per mile. On the Santa Fe they were only 53 per mile, and still declining. He believes the downward trend will continue until average renewals get to 50-60 ties per mile per year. "This will mean, based on today's mileage of 321,673, [renewals of] 16-19 million ties per year—a decline of about 14 per cent in your business."

"This isn't a good picture to bring to any industry because we all like to think of growing," said Mr. Collister. "However, indications are that with CTC, possible mergers, and abandonment of nonpaying branch lines, the present mileage will be reduced considerably." As support for this statement, he pointed out that railroad mileage during the last ten years had declined from 383,353 to 321,673, or more than 16 per cent.

Mr. Collister disputed statements that reduced tie renewals have produced substandard track conditions, and that the life of crossties in track is determined primarily by railroad earnings.

"I believe now, more than ever," he said, "that the life of a crosstie in track is a function of wood quality, preservative treatment, and track construction," rather than earnings and other financial considerations. It is true, he added, that these latter factors "are and will be vital to any successful industry. When they pass out of the picture, it follows that the organization passes out also."

What Santa Fe Has Found

Noting "many looks of doubt" on the faces of his audience, Mr. Collister outlined what is happening on the Santa Fe. Since 1950, this road has been carrying out an inspection program using trained men to mark ties for renewal. "This means that a more careful look has been given to ties in the last eight years."

As a result of this careful look the railroad found, said Mr. Collister, "and I'd venture to say other railroads have also found, we were taking ties out because they had reached a given age, regardless of condition. Stop and consider that each additional year of service life on ties in only 100 miles of track is worth $90,000. This picture causes one to take a closer look, and we found, and are finding, 'characters' that look rough and yet are still sound, which would have come out from the first look.

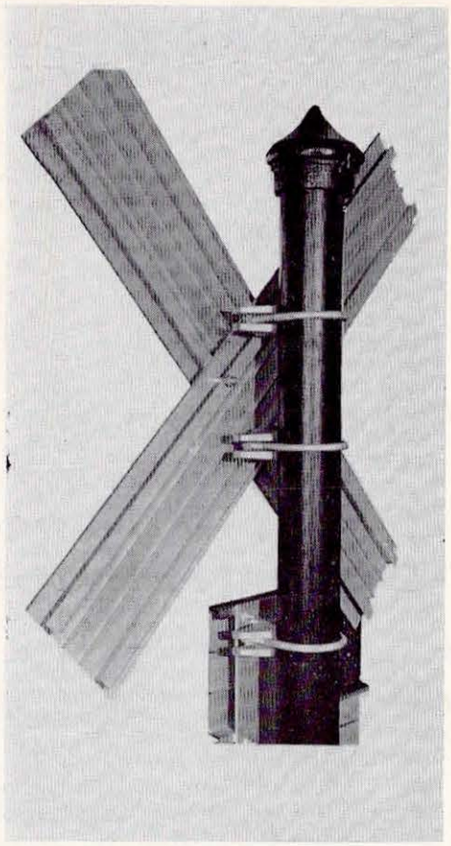
"We are in the final stages of transition from softwood to hardwood ties. We have mechanized our tie-renewal program, we are using heavier rail, larger plates and better ballast, and we are dieselized. All these factors are beneficial to the tie life."

Mr. Collister then noted that the Santa Fe is vapor drying all its ties, a practice which is expected to minimize decay and checking and splitting.

But there is more to come, he implied, in the way of developments that will result in still greater life from crossties. "You are aware," he said, "of the work done by the D&RGW under the leadership of [director of research] Ray McBrian in an effort to make hardwoods from soft through atomic radiation. An impregnant is being sought that will harden when irradiated." Furthermore, he said, "we are in the midst of a program endeavoring to treat refractive species with sonics, and I understand there has been a breakthrough in the ability to bond the tie plate to the tie."

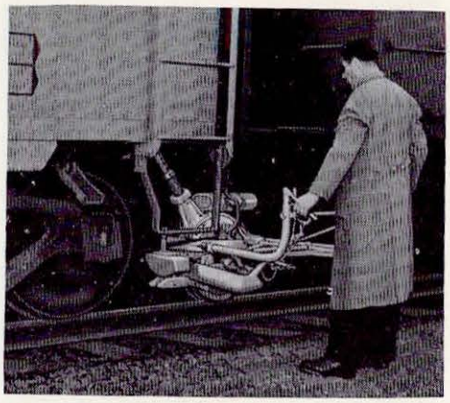
Summarizing, he said: "The tie life will increase due to factors mentioned above, and with the continued decrease in miles of maintained track, tie production will continue to decline."

New Products Report



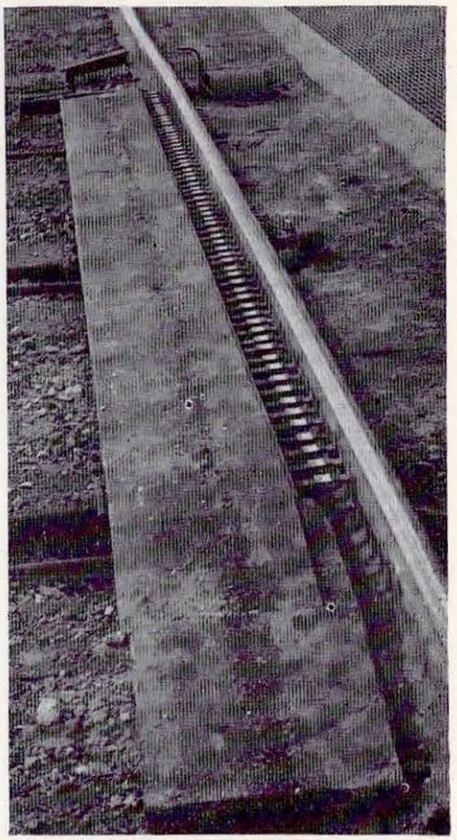
Aluminum Crossing Signs

New aluminum crossing signs feature replacement of individual panels. The nesting design is for use on signs where large areas create heavy wind load problems. Elements must be bolted together as well as to the support members. The interlocking design needs no fasteners between elements and is ideal for small to medium size signs. The background is a hard finish dull black enamel, and the letters are cut out reflective material. *Union Switch & Signal, Division of Westinghouse Air Brake Co., Dept. RA, Swissvale, Pa.*



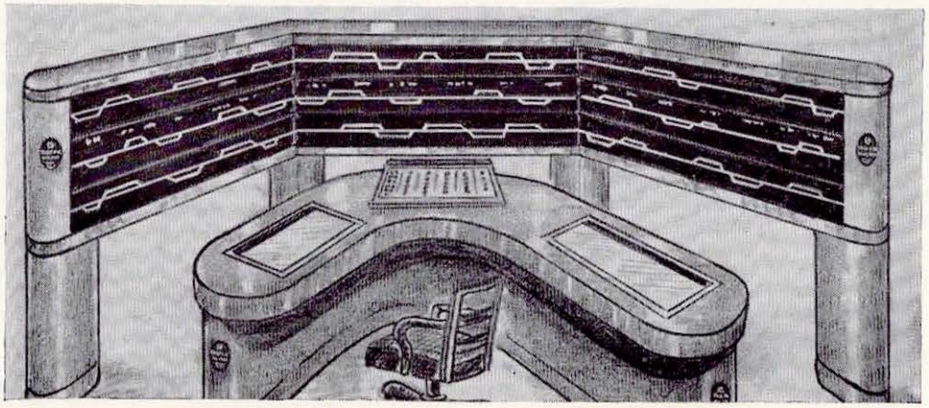
Car Shunter

A single-wheel, single-cylinder device, weighing 550 lbs, the Car Shunter can travel on or off tracks. Operated by one man, it can move any car up to 100 tons, at normal walking speeds. It is intended for use in railroad yards, marine harbors, and on sidings of warehouses and manufacturing plants where cost of a small switch engine is not justified, or where cable pullers do not satisfy needs. The large rubber tire has special gripper teeth to pull shunter over rail points, switches, sleepers and ties, without damage to them or shunter. Car engagement is provided by a high ratio jack screw and clamp. Cars can be released at coupling speeds for train make-up. Three dial-selected forward speeds are available. Carriage swivels 90 deg. in either direction so shunter can get between coupled cars and operator can walk adjacent to tracks for safe visibility. Operator is required to control only throttle as shunter follows rail automatically. Center of gravity is under axle for easy maneuvering. Over 3,000 units are in use in Europe, made by Ilo-Werke, division of Rockwell Manufacturing Co. Distribution here by *Car Shunter Company of America, Dept. RA, 615 Boulevard Bldg., Detroit.*



Automatic Wheel Checker

A device for detecting defective wheels on moving cars (20 mph) consists of a series of spring steel fingers, placed at right angles to the rail, with a steel pad near the end of each finger. Normal wheels depress the fingers away from the wheel. A defective flange on a wheel allows the finger tips to touch the wheel tread, causing a relay to actuate lights, buzzer and a pump to shoot a non-drying paint on the passing wheel to facilitate location. *Wheel Checkers, Dept. RA, 1333 S. Franklin St., Denver 10, Colo.*



New CTC Panel

A Mark II optional arrangement of the indication panel for the Traffic Master CTC control center permits stacking three horizontal track diagrams on the indication panel. With Mark II Traffic Master, the dispatcher can see all train, switch and signal indications for 500 or more miles of typical mainline track without turning in his chair. Controls are transmitted from a compact pushbutton console physically separated from the indication panel. *General Railway Signal Co., Dept. RA, P. O. Box 600, Rochester 2, N. Y.*

PRODUCTS BACKED BY EXPERIENCE

BARCO

FOUNDED 1908

SIMPLE, Your

STEAM HEAT CONNECTIONS

BARCO is America's pioneer builder* of steam heat connections for trains. The improved Barco product offered today is the most modern, most advanced connection ever developed for railroad service. Important features of superiority make Barco FIRST CHOICE wherever efficiency, economy, and reliability are prime considerations:

Lightest Connection Made — All-welded steel construction. Insulation (optional) covered by tough welded steel jacket. Built to handle 300 psi steam.

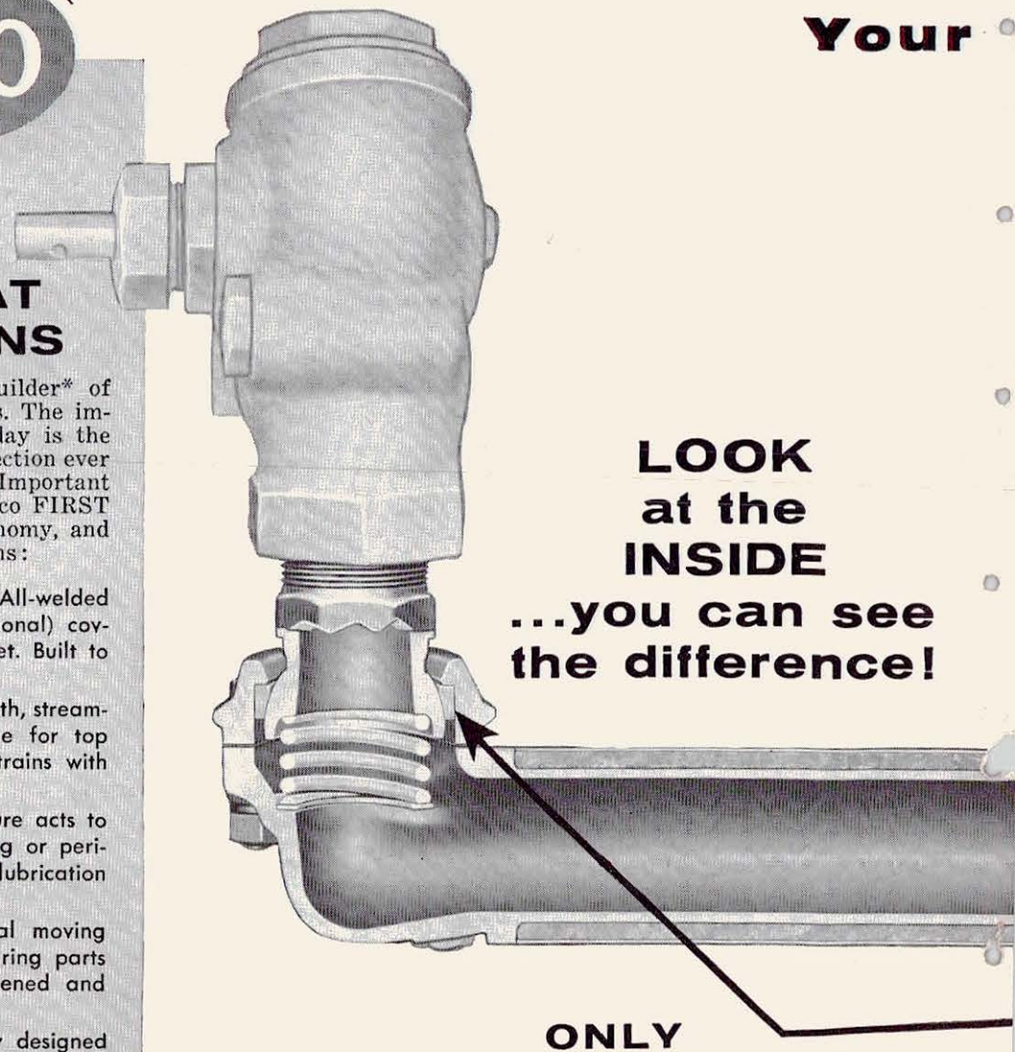
Greatest Steam Capacity — Smooth, streamlined, unobstructed inner passage for top capacity steam flow on longest trains with minimum pressure drop.

Pressure Sealing — Steam pressure acts to make joints self-sealing. Tightening or periodic take-up is not needed. No lubrication required.

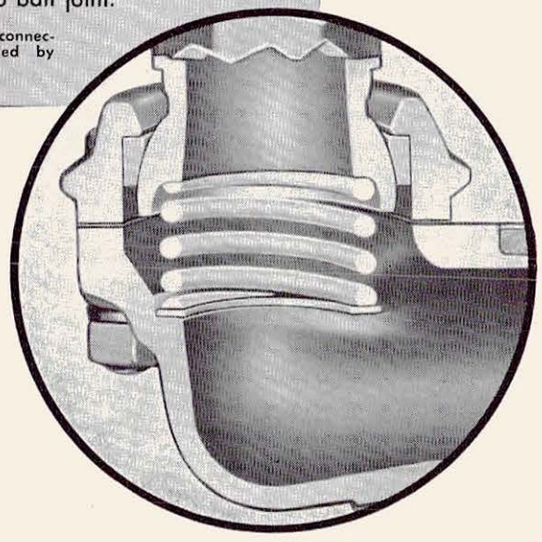
Fewer Parts — Only two internal moving points per connection. Metal wearing parts are specially treated steel, hardened and chrome plated.

Advanced Design — Scientifically designed support spring and safety spring arrangement for maximum convenience and reliability. Quick action split-flange construction for easy access to ball joint.

*First successful metallic connections built and installed by Barco in 1914.



LOOK at the INSIDE ...you can see the difference!



ONLY TWO JOINTS

- EXCLUSIVE FLEXIBLE BALL JOINT DESIGN. PERMITS MOVEMENT IN ANY DIRECTION. ONLY TWO JOINTS PER CONNECTION.
- THE SPHERICAL BALL SEATS AGAINST RING TYPE GASKET. PRESSURE SEALING, SELF-LAPPING—FOR LONG, LEAKPROOF SERVICE *(Only one gasket to stock. Same ball joint gasket used on all Barco connections.)*
- GASKETS ARE MOLDED BY BARCO USING A SPECIALLY DEVELOPED COMPOSITION. ONLY TWO PER CONNECTION.
- BALLS ARE HARDENED ALLOY STEEL, CHROME PLATED, AND RESISTANT TO WEAR.
- INTERNAL SPRING NEEDED ONLY FOR CENTERING AND INITIAL SEATING OF BALL.

SEASON-TO-SEASON SERVICE

trouble-free design reduces costs!
equipment stays in service longer!

Simplest design! All-welded construction! Easy, installation! Less maintenance! These are reasons why BARCO IS THE CHOICE. There is good cause for this preference. On roads that have made careful comparative studies, Barco Steam Heat Connections consistently have demonstrated their ability to cut costs—THE GASKETS LAST!

Barco gaskets are extremely durable and easily last through an entire steam heating season. They will not blow out or fail suddenly. Frequent troublesome repairs and replacement of gaskets enroute can be eliminated. Stocking of replacement gaskets at way points is not necessary.

The simplicity of Barco's *exclusive flexible ball joint design* also reduces the number of gaskets by half. For example, on a twelve car train, instead of ninety-six gaskets to maintain in leak-free condition, with Barco connections there are only forty-eight. The reduction in number of wearing and replacement parts is reduced correspondingly.

Maintenance recommended consists of once-a-year inspection and replacement or renewal of any worn parts. At that time, gaskets should be replaced. Use of Barco's time-tested special composition gaskets is economical—very low cost insurance of SEASON-TO-SEASON SERVICE WITHOUT MAINTENANCE.

1ST CHOICE! Read what users say:

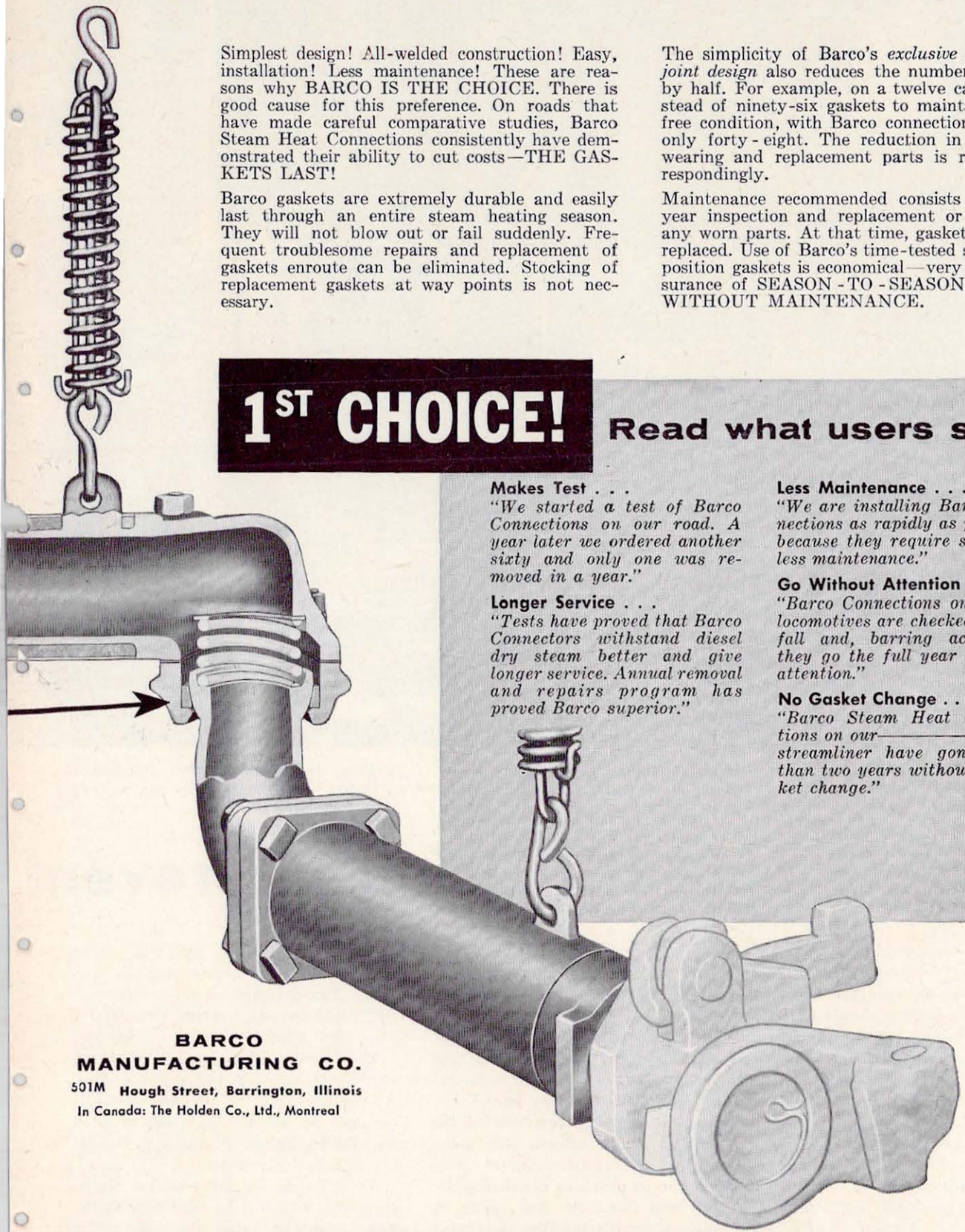
Makes Test . . .
"We started a test of Barco Connections on our road. A year later we ordered another sixty and only one was removed in a year."

Longer Service . . .
"Tests have proved that Barco Connectors withstand diesel dry steam better and give longer service. Annual removal and repairs program has proved Barco superior."

Less Maintenance . . .
"We are installing Barco connections as rapidly as possible because they require so much less maintenance."

Go Without Attention . . .
"Barco Connections on Diesel locomotives are checked in the fall and, barring accidents, they go the full year without attention."

No Gasket Change . . .
"Barco Steam Heat Connections on our streamliner have gone more than two years without a gasket change."



BARCO MANUFACTURING CO.
501M Hough Street, Barrington, Illinois
In Canada: The Holden Co., Ltd., Montreal

WITHOUT MAINTENANCE

GUTTED BY A SUNDAY-MORNING FIRE—Clearing roundhouse of the Belt Railway of Chicago stands as mute testimony to the necessity of checking—and checking again—established firefighting procedures. Inside were seven diesels.

What Is Your RR Doing to Prevent

The president of a Chicago railroad got up before the AAR's Fire Protection and Insurance Section recently and gave expert testimony on why nothing should be taken for granted where a potential fire is concerned. Although his railroad knew about the recommendations of students of railroad fire protection, a roundhouse burned down.

The speaker was L. A. Evans, president and general manager of the Belt Railway of Chicago. The roundhouse was at Clearing Yard on Chicago's south side. Early on a Sunday morning last March, a fire starting from a spark emitted by a diesel devoured the 20-stall building and destroyed or damaged seven diesels.

Mr. Evans gave a detailed chronology of the day's events, as determined by subsequent investigation. Comparing his remarks to "the testimony of a reformed transgressor," he told the meeting that the Belt's experience confirms "the value of continual review of fire-prevention and protection practices which your organization has advocated for many years."

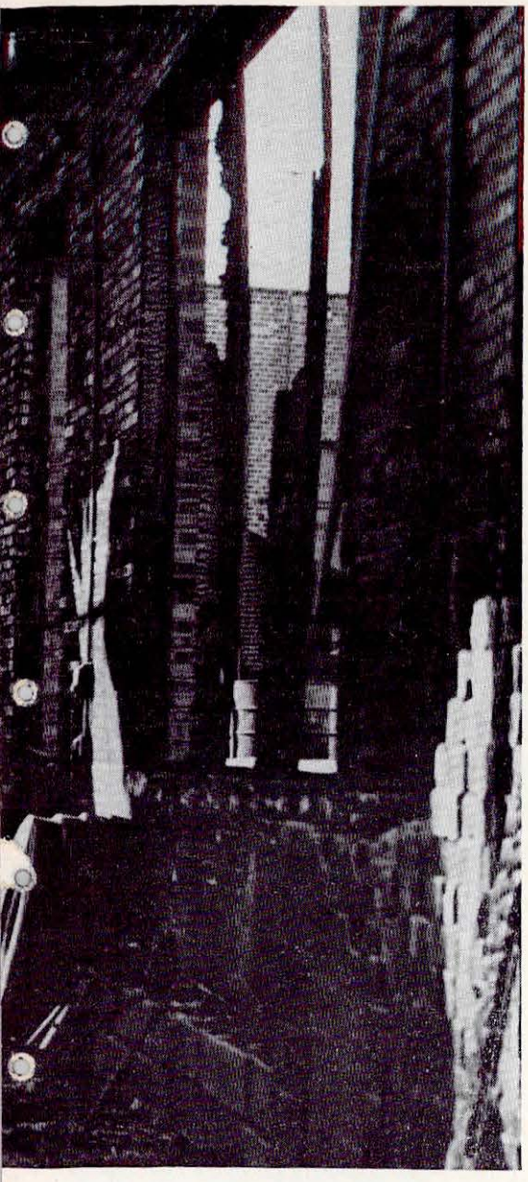
A turntable operator first spotted the Belt's fire on the roundhouse roof about 8.40 a.m. He called his foreman, who took a look, ran to an adjoining diesel shop for help and then called the Belt police. A desk sergeant imediately called the Chicago Fire Department. Within nine minutes an engine company arrived.

The city pumper connected to a Belt hydrant and, because the lines contained only normal pressure, got little or no water. Other units arrived and got none either. Firemen then set up a relay to a Bedford Park city hydrant some 600 ft away and finally got water to the fire.

The foreman, meantime, called the supervisor of motive power at home. Then, 15 minutes after the fire had been discovered, he notified the powerhouse to start the fire pumps, an operation consuming at best five minutes.

By this time the fire was too big for employees to fight with hand-operated extinguishers. The hostler was prevented by heat from moving out of the way the diesel which had started the fire.

The Belt's labor foreman, who doubles as fire chief, was called at home at 9 a.m.



This?

He arrived at 9:40 to find the entire roundhouse in flames. He could only see that proper protective measures had been taken in the diesel shop. The fire jumped the fire wall and parapet which bisected the roundhouse and consumed the entire structure.

Primary cause of the fire, Mr. Evans reported, was a spark emitted by a diesel which had been idling inside the house since about 1:30 a.m. to dry out traction motor cables. Normally, this is not done inside on the Belt; the only work performed regularly on diesels inside the roundhouse was truck washing. Other units inside the house were shut down.

Mr. Evans pegged these as contributing causes to the loss of the roundhouse:

- Insufficient training and organization of the fire combat team on duty.
- Failure to call the pump house immediately to ask for firefighting pressure.
- Inability of the shop fire lines to deliver enough water to combat a major blaze.
- A minor delay in dispatching the first Chicago engine company because the roundhouse actually lies outside the city and orders to dispatch had to come from the chief officer on duty.

The quirk which involved the Chicago Fire Department added another contributing factor: Because Clearing was outside his jurisdiction, a newly appointed city engine company captain wasn't familiar with its layout.

"He had spent his time familiarizing himself with the city area which was his responsibility," Mr. Evans pointed out. "Had he been acquainted with our territory he would have known he should connect to the Bedford Park hydrants instead of to our emergency fire lines."

The fact that he didn't know, Mr. Evans said, was largely the fault of the Belt itself. Since Clearing's firefighting system is designed only to contain a major fire until city help arrives, he said, the railroad should have taken the initiative in acquainting the new captain with the situation.

The lessons of Clearing emphasized two major principles of fire prevention and protection, the Belt's president declared:

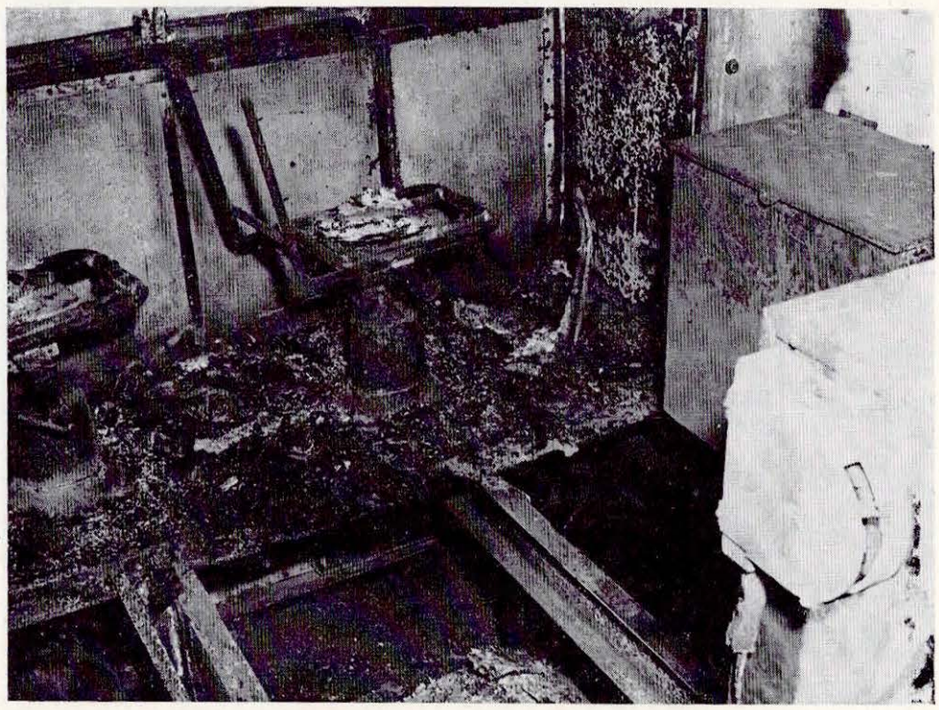
- "It is essential that nothing be taken for granted. Checks must be made continually!" He emphasized continual review of employee responsibility; firefighting proficiency; condition of equipment in the light of new products; periodic review of the advisability of replacing watchmen with automatic fire-detection devices.
- "Closely allied to the improvement in equipment is the need to check the adequacy of the existing water supply in view of the increased demand for water by present-day city firefighting equipment."

Since the fire, the Belt has installed two hydrants on a 12-in. water line which connects the shop area with a large storage tank. It also has begun installation of a connection to the 20-in. Bedford Park main from which firefighters ultimately got their water.

Automatic rate-of-rise alarm systems have been installed in the diesel shop, maintenance-of-way office and shop, storehouse, wrecker building and the agent's office in which IBM equipment is installed.

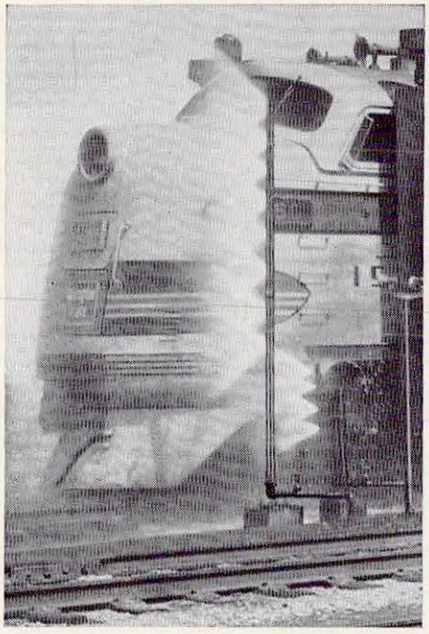
In a long-range project, the Belt will replace its steam fire pumps with electric pumps. The pumps will be powerful enough to provide sufficient pressure for employees to contain a fire with "Belt water" until outside help arrives and connects to city water sources.

"Our labor foreman and fire chief has been fully acquainted with the areas of performance requiring improvement, and a program is under way," Mr. Evans said. "The line officers, beginning with the president's staff, have been impressed with the lessons learned during our fire."



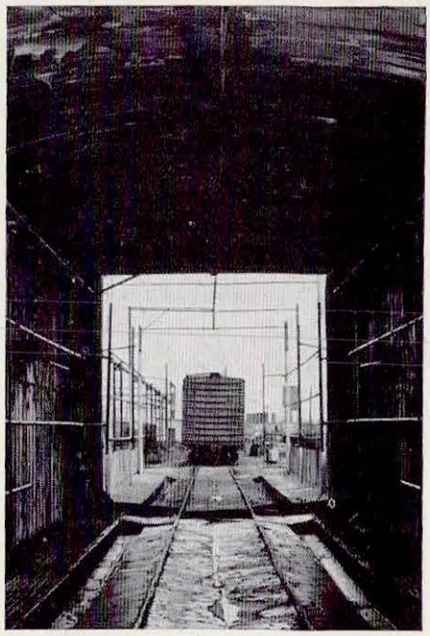
LOCOMOTIVE WHICH STARTED THE FIRE ended up like this. The engine was idling so that traction motor cables would dry out. A spark from the stack lodged in the roundhouse roof and blazed.

HERE ARE WYANDOTTE CLEANING

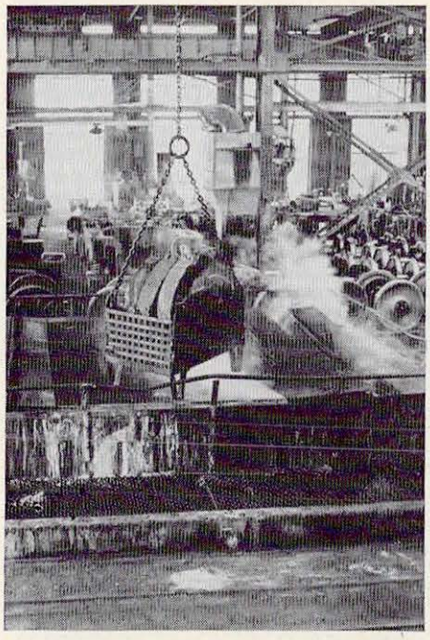


About 15¢ per unit for exterior diesel cleaning (machine washing). With an automatic washer and using WYANDOTTE-75, your diesels will be sparkling clean in just 1½ minutes per unit.

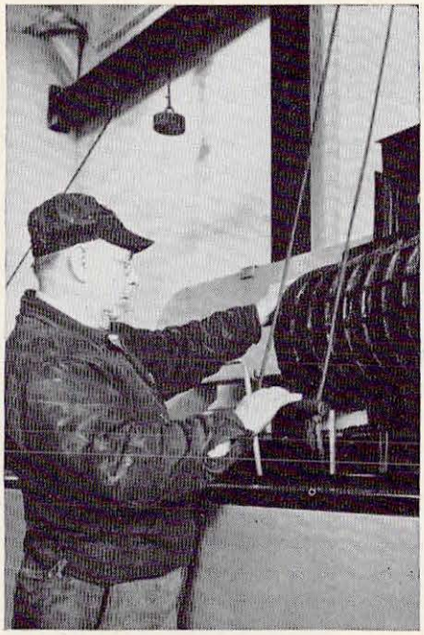
Only $1.35 per passenger diesel unit interior, using WYANDOTTE-30. No back-breaking labor. No costly hand wiping with Wyandotte spray-on, spray-off method. Units are sparkling clean, oil-free.



For less than $7, and in less than 8 minutes, WYANDOTTE-21 strips all paint from a boxcar. This cost includes stripper, labor, phosphatizing, and *all* other costs. Stripping tunnel is used; no hand labor.



Just 2½¢ to vat-clean a ton of ferrous parts with WYANDOTTE-11. This cleaner has good emulsifying characteristics, long service life, 100% solubility in water, controlled uniform quality, and low use-cost.



Only 3¢ to vat-clean a ton of aluminum parts with WYANDOTTE ALTREX.® You'll get a better cleaning job, and a faster one, with ALTREX. Compare this cost with that of any other cleaner on the market.

Just 13½¢ and one minute clean exterior of a passenger car (machine washing). Using WYANDOTTE-85, your cars stay bright and clean without paint damage. WYANDOTTE-85 is well inhibited, too!

COSTS--WHAT ARE YOURS?

Take a look at your cleaning operations—see if Wyandotte might help you clean better, faster!

The true measures of an efficient cleaning operation are actual results and unit-cleaning costs—not the price-per-pound of the cleaning product.

Because cleaning is our business, and because of long experience in the railroad field, we have developed cleaning products designed to give you better results—save you *time and labor*, and do a better job.

Equally important, Wyandotte cleaning methods assure you of the maximum from your maintenance personnel and equipment, and positively establish a more efficient operation for you at use-costs equal to or less than those shown.

Dealing with Wyandotte brings you benefits—in both effective products and helpful services—that could only come from the resources, research, and know-how of the largest supplier of specialized cleaning and washing products for business and industry.

Use Wyandotte's cleaning service. It gets results—saves time, saves dollars!

Your Wyandotte cleaning specialist is assigned permanently to your line. He devotes his time to improving your cleaning in any local area or on a systemwide basis. Thus, he coordinates his activities with the requirements of your mechanical, purchasing, and test departments.

Get more details by writing us today! *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Also Los Nietos, Calif. Offices in principal cities.*

Wyandotte CHEMICALS

REG. U. S. PAT. OFF.

J. B. FORD DIVISION

COMPLETE LINE OF CLEANERS FOR ALL RAILWAY NEEDS

Cut Your Pole Line Maintenance

Some railroads may be overlooking a significant area of cost reduction in the way they maintain pole lines.

Maintenance costs can be cut—through mechanization. And, judging by a spot check of what four roads have accomplished, costs can be trimmed without reducing maintenance levels. Actually, use of modern machines to dig holes, set poles and similar jobs can boost pole line work standards.

The payoff comes at least two ways.

Good line construction and maintenance can minimize damage resulting from storms. This helps keep signal and communication circuits operating when they're needed most.

Machines used in this kind of work pile up savings in manpower and time, often pay for themselves in less than a year. Put another way, the increased efficiency means better utilization of men and materials.

Here's the story of what four companies have done:

NORTHERN PACIFIC. . .

Some Northern Pacific linemen assigned to maintenance in specific territories now use ½-ton trucks equipped with motor car hoists. Use of the truck substantially increases maintenance efficiency, especially around larger terminals where operation of a motor car is a problem.

One lineman equipped with truck can clear trouble at several locations in a matter of hours. More time is left for all-important preventive maintenance work.

A D-2 Caterpillar tractor equipped with auger and boom is used by outside plant forces engaged in pole setting work. The arrangement has increased efficiency of pole setting crews by as much as 50 per cent. Forty-foot poles are handled with this small unit without difficulty, although, in heavier jobs, a counterbalance is added on the front section of the tractor.

NEW YORK CENTRAL. . .

Working straight through the winter of 1957-58, NYC communications crews set 2,500 poles along the rehabilitated line from Jackson, Mich., to Elkhart, Ind. The 97-mile line was rebuilt to handle Chicago-Detroit freight trains now routed via Elkhart for classification in the modern new retarder yard there.

Practically all the old poles needed replacement. Others were torn up or knocked over during grading as track was rebuilt. A completely new pole line had to be constructed. Class 4 and class 6 creosoted pine poles, 20 to 40 ft high, were used. They were spaced 35 to the mile. Poles have two crossarms, the upper for communications circuits, the lower for signaling circuits.

A three-man crew handled the hole digging and pole setting, using an FWD Blue Ox digger. This rubber-tired vehicle has four-wheel drive with a power take-off for earth auger and winch.

As the driver moves the digger into position, a crew member takes the free spool winch line and attaches it to a new pole. The third man operates the digger. When the hole is dug, the pole is winched in and dropped into place. The three-man crew can set a pole in four minutes from the time the auger touches the ground until the pole is in final position. One crew can set from 35 to 50 poles daily.

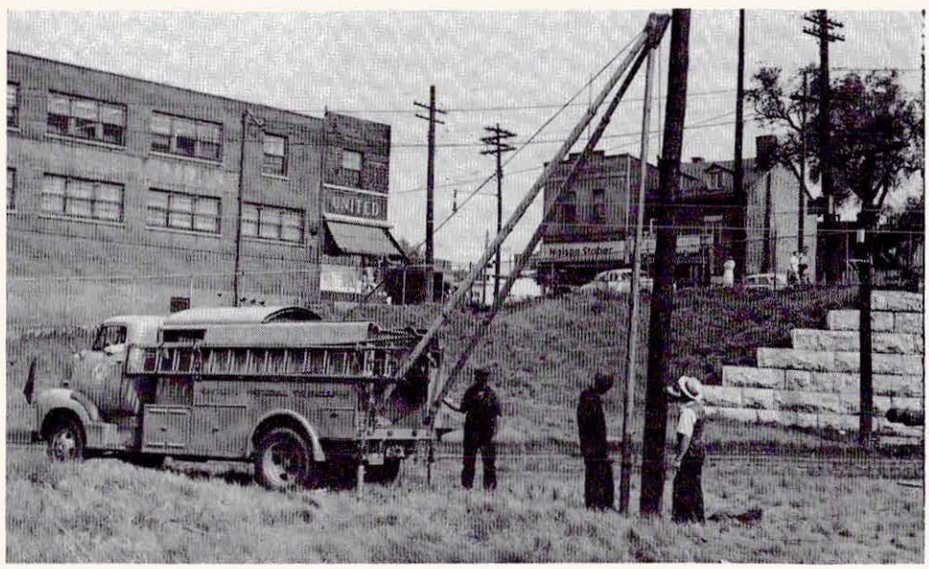
Working behind the pole setters, a line crew fills holes around poles, tamps, and strings wires.

High clearance and large tires on the FWD digger permit operation along and over railroad tracks and rough terrain. Four-wheel drive provides power to move over sand, mud or soft ground. The result is maneuverability that saves time: the pole-setting crew can drive directly to each pole site.

CANADIAN NATIONAL TELEGRAPHS. . .

As early as 1945, CNT began studying pole line maintenance mechanization. Tests showed that Caterpillar D2 tractors and HD earth-boring machines generated savings which more than covered their cost.

One machine dug 1,870 pole holes, 479 4-ft anchor holes, 34 8-ft anchor



TRUCK CARRIES all tools and supplies for pole setting and hole digging. A-frame on rear holds earth auger for digging pole hole, and is then used for setting the pole.

Costs

holes, and set 1,797 poles—all at a saving of $5,340. Another machine dug 8,837 pole holes, and 378 4-ft anchor holes at a saving of $9,690. Because labor costs are considerably higher now, possible savings at present are even greater.

The model HD earth-boring machine, mounted on a Caterpillar D2, is equipped with a 13-ft auger rack bar to dig 7-ft holes. Augers are 16-in. and 20-in. They can dig a hole at any angle and are especially adapted to digging anchor holes.

CNT also uses a model 105 Tractair, a self-propelled air compressor unit for drilling and blasting post holes. This unit has a front end winch mounted with 400 ft of ⅜-in. cable, utility ballast box, hand rail, single line hose reel, two model H 111 Jackhammers, one model 52 Paving Breaker, five 50-ft lengths of ¾-in. pneumatic tool hose, complete with couplings and fitted with line oilers. The machine has good maneuverability, and is driven along right-of-way directly to work sites.

Rated at 35 hp maximum (sea level), the unit's engine is a 4-cylinder, wet-sleeve type. The compressor has a rated capacity of 105 cu ft per min at 100 lb gage. This provides a tool capacity of four backfill tampers or two light (35 lb class) rock drills or one heavy (80 lb class) rock drill.

During a 4-month operating period, 588 post hole units were drilled and

(*Continued on page 34*)

THREE-MAN CREW operating mobile digger can set a pole in 4 min. including digging the hole. Digger can be driven along right-of-way directly to pole site.

TRACTOR can maneuver in rough terrain for digging holes and setting poles.

ALL-PURPOSE TRACTOR has air compressor for supplying earth augur, pole setter and tools for boring holes, sawing up old poles and jack hammer for breaking rock.

(*Continued from page 33*)

blasted using the Tractair unit—with savings of up to 46 per cent in man-hours. Actual labor expended in performing the work was 4,260 man-hours or 7.2 man-hours per unit. From records of similar work performed over a 4-year period, it was determined that the actual labor expended, using portable gasoline-driven rock drills, averaged 13.2 man-hours per unit.

Two line construction trucks with combination pole and cable reel trailers used by CNT in Montreal and Toronto have effected big savings, too. These trucks were purchased as complete units with all the necessary equipment for efficient operation (such things as winch, derrick, derrick jacks, tow hook and collapsible power take-up reel).

The equipment is used in many ways. The derrick is most useful in setting and removing poles. The collapsible power take-up reel is used for reeling line wire.

Results from one 5-month operating period indicated that a 7-to-9 man gang so equipped could perform work equal to that of a 16-man gang.

A good example of the economy involved is an actual case where the cable reel was loaded on the trailer, transported 4 miles, equipment set into position, ducts rodded and cleaned and a 575-ft length of 606-pair 22-gage cable pulled into the underground system—all in 2.5 hr. By previous methods, this job would have taken a 16-man gang almost a full day.

READING. . .

A LeRoi Tractair with power attachments has been substituted for hand power by the RDG's signal, electrical and communication department. With such a tool, a pole line gang gets more done, easier.

Featured on the Tractair is an air compressor (125 cu ft per min), which operates a 5-hp air motor mounted on a hydraulic-driven front-end loader. The motor drives an earth auger—normally, an 18-in. bit—which can dig a post hole in minutes.

New poles are set with a hydraulic winch and crane boom on the front of the loader. The same unit assists in distributing poles and material along the right-of-way.

When a new pole is readied for setting, crossarms, with pins and insulators in place, are applied to poles lying on the ground. After hole is dug, the pole is set by running a line from the winch through a pulley attached to a near-by standing pole and down to the pole on the ground. The tractor operator either hauls in the line with the winch, or drives the tractor away, thus pulling the new pole erect.

An air-driven chain saw, which is also a tractor attachment, is used to cut up old poles for disposal. Bolt holes in new poles are bored quickly with an air-driven drill.

These various attachments for the basic tractor unit were developed jointly by Reading engineers (G. B. Blatt, chief signal, electrical and communication engineer, and R. M. Much, Jr., project engineer) and the Stewart Equipment Co.

Railroading After Hours with Jim Lyne

RAILROAD TALK—There don't seem to be too many anecdotes which have a distinctly railroad background. Off hand, I can think of only one. It goes back to World War I days when pay increases were retroactive—giving everybody a lot of fun figuring out back pay. Most of you will recall the story. Here it is:

At an accident investigation, the head brakeman was asked what he was doing at the time of the accident. He said he was on the seat box talking "railroad talk" to the fireman. And what was "railroad talk"—"Why, women and back pay, of course."

There must be other stories like this which work only in a railroad setting. If you know any (printable ones, that is) please send them along.

DICTIONARY SECTION—There's a difference in railroad terms between English-speaking countries—and there's also a difference in railroad terms between Spanish-speaking countries. The Mexican railroad magazine "Ferronales," with all its pictures, makes it easy to figure out the Mexican (i.e., Spanish) words for most railroad objects. For example, in Mexico, a yard is a "patio." But an Argentine railroader was in to see me the other day, and he called a yard a "plaza."

I keep on getting mail about that word "dinger." My associate Bill Milliken tells me that H. L. Mencken lists the term, in his "American Language," as a synonym for yardmaster. A fellow with a down-East Yankee accent phoned me the other day to report that, in his bailiwick, a dinger is what in the South they would call a scalawag.

PIRATICAL 'TARIFFS'—Ed Hill, chairman of the Eastern railroads' traffic organization, was talking to me the other day about the early history of railroad rate-making, including the pioneer work of Albert Fink. Then Ed showed me a copy of an informative 60-page book he wrote 15 years ago on traffic department work.

In this book there's an appendix which includes an explanation of the word tariff—which comes from the town Tarifa, near Gibraltar, where the Moors used to levy tribute on passing vessels. A tariff was something like a ransom—the customer paid it or he didn't get his goods. Today there's nothing mandatory about a tariff—more like a bill of fare, such as some restaurants post near the entrance. If customers like the groceries and the prices, they go in and order. If not, they move on down the street.

MEDICAL FRIENDS—Frisco Traveling Auditor W. E. Boughnou has sent me a page from the publication of the Jackson County (Mo.) Medical Society, strongly supporting railroad service. It acknowledges the recent act of Congress and says: "This is the first step but it is only a small step. The important factor in this problem is taxes."

This is one more bit of welcome evidence that railroads have lots of friends. The railroad job is to keep the friends, to make more of them, and to mobilize them for effective political action. What was accomplished in 1958 should be merely prologue.

INTERESTING TRANSPORT Rx—John Snyder, Jr.—an industrialist who put in some time as a freight car builder—has a provocative piece in the current Harper's magazine on the U. S. lack of anything resembling a rational policy for transportation. He says "our transportation system is in one hell of a mess," and proceeds to do some constructive prescribing for it.

MARKET OUTLOOK *at a glance*

Carloadings Rise Slightly Above Previous Week's

Loadings of revenue freight in the week ended Nov. 1 totaled 674,477 cars, the Association of American Railroads announced on Nov. 6. This was an increase of 213 cars, compared with the previous week; a decrease of 39,517 cars, or 5.5%, compared with the corresponding week last year; and a decrease of 125,890 cars, or 15.7%, compared with the equivalent 1956 week.

Loadings of revenue freight for the week ended October 25 totaled 674,-264 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, October 25

District	1958	1957	1956
Eastern	95,887	106,300	129,738
Allegheny	113,393	132,623	156,550
Pocahontas	53,205	61,536	65,607
Southern	121,179	122,076	132,206
Northwestern	96,698	106,273	136,842
Central Western	137,616	125,033	135,990
Southwestern	56,286	49,847	59,870
Total Western Districts	290,600	281,153	332,702
Total All Roads	674,264	703,688	816,803
Commodities:			
Grain and grain products	66,242	46,217	56,363
Livestock	12,165	12,397	13,870
Coal	117,110	134,417	146,507
Coke	8,040	9,599	12,429
Forest Products	40,450	37,674	44,219
Ore	47,009	62,923	87,708
Merchandise l.c.l.	47,389	53,600	62,032
Miscellaneous	335,859	346,861	393,675
October 25	674,264	703,688	816,803
October 18	695,768	726,812	828,741
October 11	686,138	741,520	823,207
October 4	677,016	747,647	815,193
September 27	672,924	739,266	831,648
Cumulative total, 43 weeks	24,885,407	30,055,905	31,464,074

IN CANADA. — Carloadings for the seven-day period ended October 21 totaled 81,746 cars, compared with 72,827 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
October 21, 1958	81,746	27,113
October 21, 1957	92,512	32,585
Cumulative Totals:		
October 21, 1958	3,052,965	1,137,158
October 21, 1957	3,298,318	1,335,119

New Equipment

FREIGHT-TRAIN CARS

► *Baltimore & Ohio.*—Is converting 10 additional flatcars for use in piggyback service.

► *Lackawanna.*—Authorized the construction of 100 flatcars and the purchase of 75 new highway trailers for piggyback service. The flatcars will be built at the company's shops at Keyser Valley, Pa., by converting hopper cars. They will be equipped with sliding ramps and ACF masts. The 100 flatcars which the Lackawanna ordered earlier this fall (RA, Oct. 6, p. 35) are now being delivered at the rate of two or more a day.

► *Repair Ratio 3.5% Higher Than Last Year.*—Class I roads on Oct. 1 owned 1,737,325 freight cars, 1,615 less than a year ago, according to AAR report summarized below. Repair ratio was 3.5% higher than on Oct. 1, 1957.

	Oct. 1, 1958	Oct. 1, 1957	Change
Car ownership	1,737,325	1,738,940	—1,615
Waiting repairs	145,692	86,073	+59,619
Repair ratio	8.4%	4.9%	+3.5%

LOCOMOTIVES

► *Locomotive Ownership and Condition.*—Steam locomotives owned or leased by Class I roads on October 1 totaled 1,532, a drop of 1,220 from October 1, 1957, according to AAR quarterly summary; diesel ownership rose by 558 units and electric units declined.

	Owned or Leased October 1		Stored Serviceable October 1		Waiting Shops October 1	
	1958	1957	1958	1957	1958	1957
Diesel (Units)	27,622	27,064	654	105	1,367	1,037
Steam (Locomotives)	1,532	2,752	561	732	540	488
Electric (Units)	559	606	50	15	85	64

New Facilities

► *Great Northern.*—Directors approved expenditure of $15,500,000 in 1959 for new equipment and new facilities.

► *Missouri Pacific.*—Applied for ICC approval for replacement of mechanical interlocking with automatic interlocking at Conroe, Tex., at a crossing of the Palestine division of the MP with the Gulf division of the Gulf, Colorado & Santa Fe.

► *Santa Fe.*—Acquired 430 acres near Littleton, Colo., for development of a new industrial park. Construction of the first lead track into the area will begin in the near future.

Maintenance Expenditures

► *Down 14.2% in August.*—Expenditures by Class I roads for maintenance of equipment, way and structures in August 1958 were down about $40.6 million compared to the same month in 1957, according to report of ICC Bureau of Transport Economics and Statistics summarized below:

	Aug. 1958	Aug. 1957	% Change
Maintenance of Way & Structures	$103,937,796	$126,112,560	—17.6
Maintenance of Equipment	140,998,326	159,476,741	—11.6
Totals	244,936,122	285,589,301	—14.2

a RAILWAY AGE time-saver page

$2 Billion Yearly Spending Urged

N&W's Saunders thinks capital expenditures should be on that scale if railroads are to realize their full potential in the immediate future.

► **The Story at a Glance: Twice as much as the billion-dollar-a-year outlays of the post-war period is what President Stuart T. Saunders of the Norfolk & Western thinks the railroads should spend for capital improvements in the future.**

He also thinks that greater determination and resourcefulness will be required to win new traffic that will come with the country's growth. And he suggests that mechanization of clerical work is a most promising field for operating economies like those which came with dieselization.

Mr. Saunders was the principal speaker at the annual meeting of the Treasury Division, Association of American Railroads, which was held last week at the Hotel Roanoke, Roanoke, Va. Presiding at the meeting, attended by some 500 representatives of member roads and guests, was the division's chairman, M. G. Mitchell, secretary and treasurer of the St. Louis Southwestern.

At the election session, M. J. Hicks, secretary and treasurer of the Delaware & Hudson, was chosen as the new division chairman. He had been vice chairman, a position to which A. B. Huttig, treasurer and assistant secretary of the Illinois Central, was elected. It was also voted to hold the 1959 meeting at the Boca Raton Hotel, Boca Raton, Fla., during the week of Oct. 12.

Stepped-up capital expenditures are required if the railroads are to realize "anything like their full potential," the N&W president said. With the pace of technological change "accelerating at an ever-increasing rate," he foresees numerous opportunities for productive use of capital. And he sounded this warning:

"If the recovery of our economy comes as fast as many economists predict, this country is going to be faced with one of the greatest car shortages that it has ever known."

Mr. Saunders also warned against being "lulled into a false sense of security" because business is better. He went on to call for legislation dealing with "basic problems" not dealt with by the "helpful" Transportation Act of 1958. He had in mind such things as the railroad industry's calls for adequate user charges on publicly-provided transport facilities, for freedom to operate other modes of transport, and for tax arrangements permitting the establishment of construction reserve funds and the shortening of depreciation terms for railroad equipment and facilities.

The new traffic which the railroads should go after with "aggressive competitive rate-making" will raise the present total of all intercity freight business by 30 to 40 per cent, Mr. Saunders predicts. But the competition "will be intense," and the railroads "cannot expect to carry any of the additional tonnage unless we fight for it." But Mr. Saunders is confident that the railroads will get an increasing share of the growing transportation market, because he is also confident that they will adapt their rates and services to the needs of shippers.

Prospective economies from mechanization of clerical work were pointed up by Mr. Saunders when he noted that 90,000 employees of Class I roads are engaged in clerical operations, and payrolls for them are now running at an annual rate of more than $477 million. At the same time, he predicted that a revolution in paper work will present "tremendous problems." He added:

"In the age of the electronics computer, departmentalization must give way to centralization in the processing of data. The trend will be toward fewer functional divisions in an organization and greater coordination of clerical activity. . . . We will be severely limited if we attempt to fit the new computing systems into the existing pattern of organization. Maximum benefits can be realized only if our operations are geared to the potentialities and limitations of the new equipment."

Treasury officers will have to assume heavy responsibilities in the modernization program, Mr. Saunders said. He told his audience that the industry's capital requirements present a "great challenge."

Canadian National: an All-Aluminum Reefer

This all-aluminum refrigerator car is one of five now in service with the CNR (RA, Oct. 20, p. 36). They were designed by the CNR, Aluminum Co. of Canada, Ltd. and National Steel Car, and built by the latter. With the exception of the trucks, charcoal heater, door and hatch hardware and certain safety equipment, all parts are aluminum. Advantages: eliminates expensive and frequent repairs and repainting due to corrosion by brine solution used in the refrigeration system on existing equipment; lighter weight.

Roads Seek to Adjust Roomette-Bedroom Fares

Five western roads are proposing a new sleeping car fare adjustment which would make two roomettes available for the price of a double bedroom. The pricing setup would be effective between any points on the Missouri Pacific, Texas & Pacific and Kansas City Southern-Louisiana &

Arkansas; and on certain through-car operations of the Rio Grande and the Gulf, Mobile & Ohio.

As the participating railroads see it, the proposal would:

- Ease demand for bedrooms and increase sale of available roomettes.
- Eliminate patron complaints on the higher cost of two roomettes when a double bedroom is not available.
- Provide separate accommodations—at no fare increase—for passengers preferring roomettes to the upper-and-lower bedroom accommodations.

In addition to MP, T&P and KCS-L&A individual operations, the proposal would apply on these through-car routes: Chicago and Hot Springs via GM&O-MP; Chicago and Texas points via GM&O-MP-T&P; St. Louis and Denver via MP-D&RGW; St. Louis and Shreveport via MP-KCS-L&A; and Wichita and Denver via MP-D&RGW.

NYS&W Seeks Loan

Susquehanna Is Second Road To Ask Government Guaranty

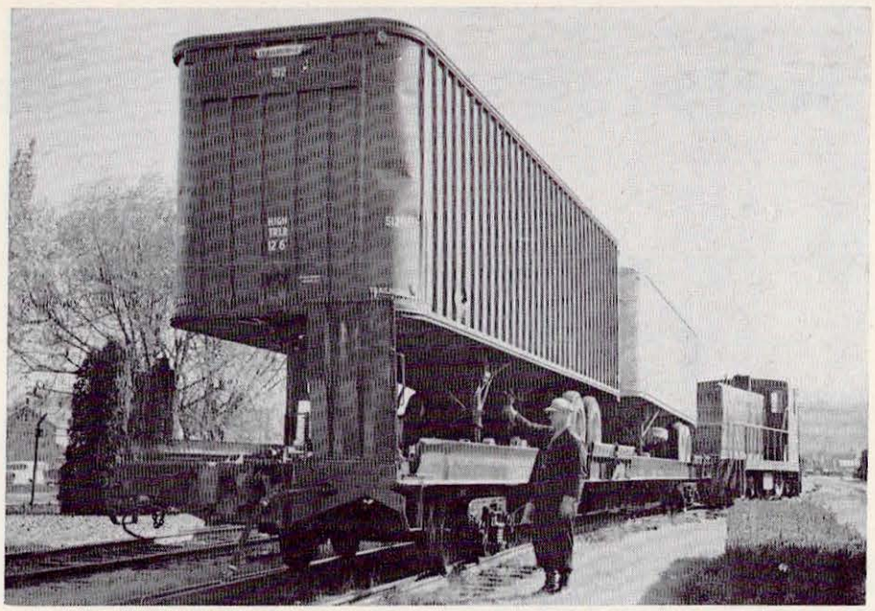
The New York, Susquehanna & Western has become the second railroad to apply to the Interstate Commerce Commission for a government guaranty on a loan. The NYS&W wants $450,000.

The New Haven, first applicant for a loan guaranty, has asked the ICC for the guaranty of two additional loans totaling $2,000,000. The New Haven's initial request was for a guaranty totaling $16,542,460 to finance the purchase of 60 diesel locomotives (RA, Oct. 20, p. 33).

The Susquehanna would apply some of the proceeds of the loan it seeks as follows: $191,933 for automatic gates being installed under a program begun in September and expected to be completed sometime next year; $27,145 for improvements to locomotives as required by the commission's order in Ex Parte 174; $127,713 to reimburse its treasury for expenditures made for additions and betterments during the period from Jan. 1, 1957, through Aug. 31, 1958; $94,900 for automatic block signals to be installed next year.

The Susquehanna has arranged to obtain the loan from the First National Bank & Trust Co. of Paterson, N. J., and the Fidelity Union Trust Co. of Newark, N. J. It will bear interest at 4½ per cent and be repayable in monthly installments of $2,678.57 each, beginning Jan. 1, 1960.

One of the new New Haven applications seeks guaranty of notes aggregating $1,500,000 for expenditures to carry out the road's shop centralization program. The other seeks guaranty of a $500,000 loan to finance the purchase of 109 units of maintenance of way equipment and machinery. No lenders are named in the New Haven applications, which said that such information would be filed later.



New Piggyback Car: Longer and Lighter

An 85-ft flatcar for piggyback use has been unveiled at the Berwick, Pa., plant of American Car & Foundry division of ACF Industries, where 400 of them are being made for Trailer Train Co. The cars are 10 ft longer than their predecessors, yet weigh 15,000 lbs less. Each is capable of carrying two 40-ft truck trailers with a gross weight of 140,000 lbs.

GN VP Raps 'Crying Towel' Charge

Great Northern's vice president-executive department let fire recently against accusations of "bellyaching" often aimed at railroad management.

Railroad men, VP Robert W. Downing declared, "often are accused of resorting to the 'crying towel' when they should be rolling up their sleeves and working out their own salvation . . . [but] some of our fundamental difficulties can be corrected only by legislation. And . . . changes in the law never were wrought by the buttoned lip."

He referred at length to the Senate Resolution 303 transportation study—particularly those phases dealing with regulation, the subsidy-taxation relationship and mergers. Some of his observations:

- "We most certainly do not propose that equality be achieved by saddling our competitors with a comparable weight [of regulation]. Public transportation would be almost hopelessly stalled. Nor is complete relaxation of control a sensible answer. We do believe, however, that some compromise is possible under which all forms of transportation are equally regulated only to the extent necessary to protect the public interest. The solution obviously is not one which can be tied up in a neat package, but is more likely to evolve over a period of time."
- "Subsidy . . . is not just an obscure problem relating to the competitive position of the railroads. It has a very direct bearing on the price [shippers] pay as users of rail transportation. But [shippers] are affected just as adversely, though perhaps more insidiously, in their role as taxpayers . . ."
- The tax burden "is one of the most damaging inequalities facing the railroads. It amounts to about 11 per cent of what we take in, as compared with 6 to 8 per cent for other forms of transportation, except commercial buses. If the railways were as favorably treated taxwise as our competitors, we would retain an additional $300,000,000 to $500,000,000 annually, enabling us to solve many of our problems in financing needed improvements and thus more adequately meeting the needs of our customers."
- "It seems likely that a number of [merger] proposals will reach the Interstate Commerce Commission in the next year or two. Consolidations will be no cure-all, but they do offer great advantages in economy, better service and improved competitive position."

Mr. Downing spoke before a meeting of the Northwest Shippers Advisory Board.

Lubricator Pad—a Correction

In the description of the new Magnus lubricator pad on page 36 of the November 3 Railway Age, it was incorrectly stated that "Each pad is 6 in. by 11 in. and holds up to 5.9 pt of oil."

The pads are available in standard sizes for 5 x 9, 5½ x 10, and 6 x 11 car journals, and each pad will hold more than 2.5 times its own weight in oil—better than 5.9 pts for the 6 x 11 size.

Tomorrow's Railroad: 'Really Terrific'

Swissvale, Pa.

To the Editor:

I generally do not write "fan letters" and I think the ones I have written you recently are about the only ones I have ever written. I thought I was through complimenting you and your associates on the job you are doing in telling the railroad story in Railway Age but I have just got to write one more as the result of this week's Railway Age [Tomorrow's Railroad, Oct. 27]. It is really terrific and any railroad supplier or railroad man who doesn't feel a surge of renewed faith in the railroad situation must indeed be pretty dense.

I took the liberty of reading a lot of your text to a large group of people before whom I spoke early this week. Also, I find that others have reacted to the series of articles in this week's issue just about like I have.

You and your staff have done a most commendable job and you deserve the congratulations of all of us.

A. M. Wiggins
Vice President and General Manager
Union Switch & Signal

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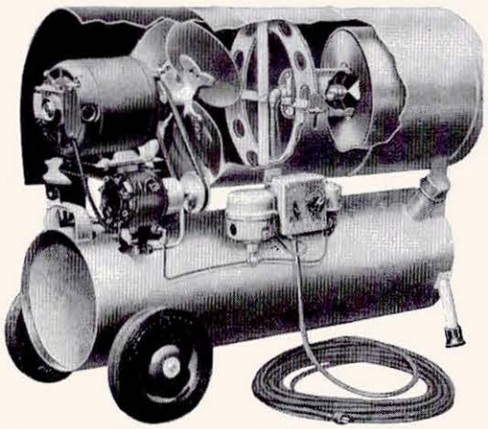

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"Man on a Hot Seat?"

Cleveland, Ohio

To the Editor:

I wish to express my appreciation for the very fair and complete exposition Railway Age gave my views as contained in the article "Man on a Hot Seat?" appearing in the Nov. 3, 1958, issue.

I note the article did not carry a byline, which in this case belongs to Mr. Gus Welty of your Chicago office. He is a remarkably competent reporter and handled the interview and writing in a professional manner. I thoroughly enjoyed meeting Mr. Welty and feel privileged to have my views presented in a magazine that some consider the "bible of railroading."

Railway Age is entitled to its editorial views and of course I have the right to differ with those views. Such is the case in your presentation of the locomotive fireman as analagous to the village blacksmith, who switched from shoeing horses to fixing flat tires.

The locomotive fireman (diesel helper) took a big step back in the late 1940's. He put down his coal shovel, picked up a training manual and began learning the intricacies of the diesel-electric locomotive. How well he learned his new duties can be seen in the countless instances where a fireman has kept a train rolling despite engine malfunctions.

I sincerely believe modern railroading is better off today through the continued employment of locomotive firemen. His contribution to safety is unquestioned. His role as a skilled diesel engineman and as trainee and assistant to the engineer is vital to safe and efficient operation.

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H. E. Gilbert
President
Brotherhood of Locomotive Firemen and Enginemen

Arkansas; and on certain through-car operations of the Rio Grande and the Gulf, Mobile & Ohio.

As the participating railroads see it, the proposal would:

- Ease demand for bedrooms and increase sale of available roomettes.
- Eliminate patron complaints on the higher cost of two roomettes when a double bedroom is not available.
- Provide separate accommodations—at no fare increase—for passengers preferring roomettes to the upper-and-lower bedroom accommodations.

In addition to MP, T&P and KCS-L&A individual operations, the proposal would apply on these through-car routes: Chicago and Hot Springs via GM&O-MP; Chicago and Texas points via GM&O-MP-T&P; St. Louis and Denver via MP-D&RGW; St. Louis and Shreveport via MP-KCS-L&A; and Wichita and Denver via MP-D&RGW.

NYS&W Seeks Loan

Susquehanna Is Second Road To Ask Government Guaranty

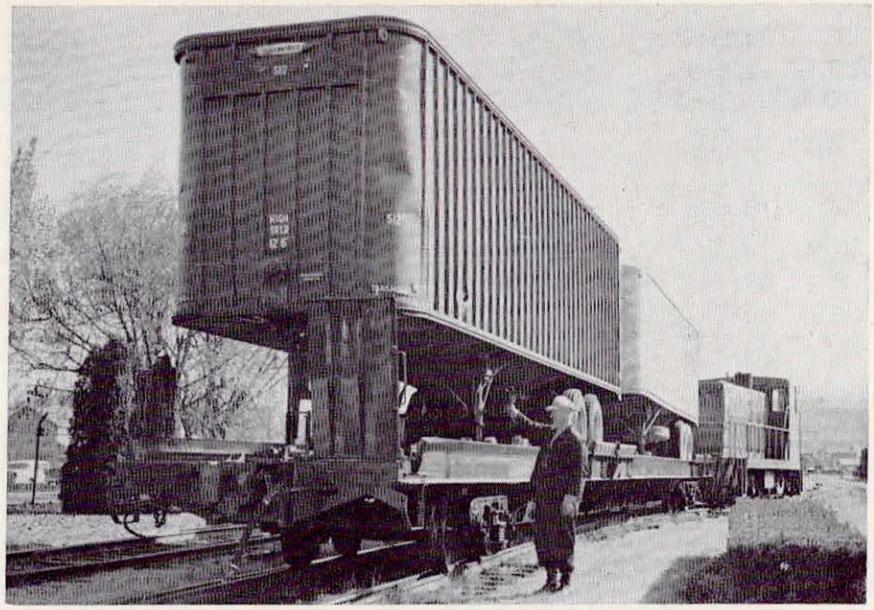
The New York, Susquehanna & Western has become the second railroad to apply to the Interstate Commerce Commission for a government guaranty on a loan. The NYS&W wants $450,000.

The New Haven, first applicant for a loan guaranty, has asked the ICC for the guaranty of two additional loans totaling $2,000,000. The New Haven's initial request was for a guaranty totaling $16,542,460 to finance the purchase of 60 diesel locomotives (RA, Oct. 20, p. 33).

The Susquehanna would apply some of the proceeds of the loan it seeks as follows: $191,933 for automatic gates being installed under a program begun in September and expected to be completed sometime next year; $27,145 for improvements to locomotives as required by the commission's order in Ex Parte 174; $127,713 to reimburse its treasury for expenditures made for additions and betterments during the period from Jan. 1, 1957, through Aug. 31, 1958; $94,900 for automatic block signals to be installed next year.

The Susquehanna has arranged to obtain the loan from the First National Bank & Trust Co. of Paterson, N. J., and the Fidelity Union Trust Co. of Newark, N. J. It will bear interest at 4½ per cent and be repayable in monthly installments of $2,678.57 each, beginning Jan. 1, 1960.

One of the new New Haven applications seeks guaranty of notes aggregating $1,500,000 for expenditures to carry out the road's shop centralization program. The other seeks guaranty of a $500,000 loan to finance the purchase of 109 units of maintenance of way equipment and machinery. No lenders are named in the New Haven applications, which said that such information would be filed later.



New Piggyback Car: Longer and Lighter

An 85-ft flatcar for piggyback use has been unveiled at the Berwick, Pa., plant of American Car & Foundry division of ACF Industries, where 400 of them are being made for Trailer Train Co. The cars are 10 ft longer than their predecessors, yet weigh 15,000 lbs less. Each is capable of carrying two 40-ft truck trailers with a gross weight of 140,000 lbs.

GN VP Raps 'Crying Towel' Charge

Great Northern's vice president-executive department let fire recently against accusations of "bellyaching" often aimed at railroad management.

Railroad men, VP Robert W. Downing declared, "often are accused of resorting to the 'crying towel' when they should be rolling up their sleeves and working out their own salvation . . . [but] some of our fundamental difficulties can be corrected only by legislation. And . . . changes in the law never were wrought by the buttoned lip."

He referred at length to the Senate Resolution 303 transportation study—particularly those phases dealing with regulation, the subsidy-taxation relationship and mergers. Some of his observations:

- "We most certainly do not propose that equality be achieved by saddling our competitors with a comparable weight [of regulation]. Public transportation would be almost hopelessly stalled. Nor is complete relaxation of control a sensible answer. We do believe, however, that some compromise is possible under which all forms of transportation are equally regulated only to the extent necessary to protect the public interest. The solution obviously is not one which can be tied up in a neat package, but is more likely to evolve over a period of time."
- "Subsidy . . . is not just an obscure problem relating to the competitive position of the railroads. It has a very direct bearing on the price [shippers] pay as users of rail transportation. But [shippers] are affected just as adversely, though perhaps more insidiously, in their role as taxpayers . . ."
- The tax burden "is one of the most damaging inequalities facing the railroads. It amounts to about 11 per cent of what we take in, as compared with 6 to 8 per cent for other forms of transportation, except commercial buses. If the railways were as favorably treated taxwise as our competitors, we would retain an additional $300,000,000 to $500,000,000 annually, enabling us to solve many of our problems in financing needed improvements and thus more adequately meeting the needs of our customers."
- "It seems likely that a number of [merger] proposals will reach the Interstate Commerce Commission in the next year or two. Consolidations will be no cure-all, but they do offer great advantages in economy, better service and improved competitive position."

Mr. Downing spoke before a meeting of the Northwest Shippers Advisory Board.

Lubricator Pad—a Correction

In the description of the new Magnus lubricator pad on page 36 of the November 3 Railway Age, it was incorrectly stated that "Each pad is 6 in. by 11 in. and holds up to 5.9 pt of oil."

The pads are available in standard sizes for 5 x 9, 5½ x 10, and 6 x 11 car journals, and each pad will hold more than 2.5 times its own weight in oil—better than 5.9 pts for the 6 x 11 size.

Tomorrow's Railroad: 'Really Terrific'

Swissvale, Pa.

To the Editor:

I generally do not write "fan letters" and I think the ones I have written you recently are about the only ones I have ever written. I thought I was through complimenting you and your associates on the job you are doing in telling the railroad story in Railway Age but I have just got to write one more as the result of this week's Railway Age [Tomorrow's Railroad, Oct. 27]. It is really terrific and any railroad supplier or railroad man who doesn't feel a surge of renewed faith in the railroad situation must indeed be pretty dense.

I took the liberty of reading a lot of your text to a large group of people before whom I spoke early this week. Also, I find that others have reacted to the series of articles in this week's issue just about like I have.

You and your staff have done a most commendable job and you deserve the congratulations of all of us.

A. M. Wiggins
Vice President and General Manager
Union Switch & Signal

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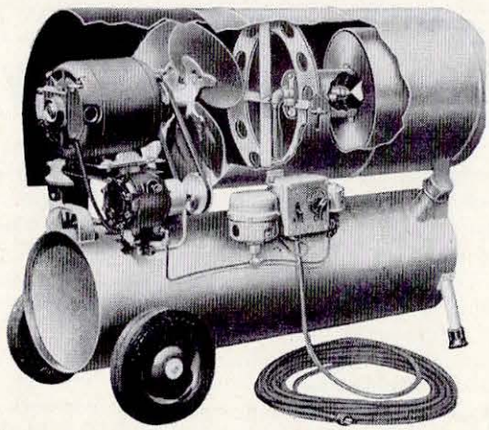

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"Man on a Hot Seat?"

Cleveland, Ohio

To the Editor:

I wish to express my appreciation for the very fair and complete exposition Railway Age gave my views as contained in the article "Man on a Hot Seat?" appearing in the Nov. 3, 1958, issue.

I note the article did not carry a byline, which in this case belongs to Mr. Gus Welty of your Chicago office. He is a remarkably competent reporter and handled the interview and writing in a professional manner. I thoroughly enjoyed meeting Mr. Welty and feel privileged to have my views presented in a magazine that some consider the "bible of railroading."

Railway Age is entitled to its editorial views and of course I have the right to differ with those views. Such is the case in your presentation of the locomotive fireman as analagous to the village blacksmith, who switched from shoeing horses to fixing flat tires.

The locomotive fireman (diesel helper) took a big step back in the late 1940's. He put down his coal shovel, picked up a training manual and began learning the intricacies of the diesel-electric locomotive. How well he learned his new duties can be seen in the countless instances where a fireman has kept a train rolling despite engine malfunctions.

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H. E. Gilbert
President
Brotherhood of Locomotive Firemen and Enginemen

K. R. Perry
CPR

Harry S. Aldridge
C&NW

Ezra C. Patton
L&N

George T. Mazawey
REA

People in the News

AKRON, CANTON & YOUNGSTOWN.—James J. King elected vice president—traffic, Akron, Ohio. Abolished position of assistant vice president—rates and divisions, formerly held by Mr. King.

BALTIMORE & OHIO.—Lester B. Marsh, dairy freight agent, Chicago, named regional manager railroad trailer service there.

BOARD OF TRANSPORT COMMISSIONERS FOR CANADA.—Roderick Kerr, assistant chief commissioner and general counsel, Ottawa, Ont., Can., named chief commissioner of the board, effective Jan. 1, 1959, succeeding **Clarence D. Shepard,** who will resume his law practice on that date. Last month **S. Bruce Smith** was appointed chief commissioner but decided not to take over those duties because of the serious illness of his wife.

BOSTON & MAINE.—Frank Reynolds, assistant to vice president—operations, Boston, retired Sept. 7.

BURLINGTON.—Office of **J. A. Hahn,** district storekeeper, St. Joseph, Mo., transferred to North Kansas City, Mo. **J. McCarthy,** local storekeeper, North Kansas City, transferred to St. Joseph.

CANADIAN PACIFIC.—K. R. Perry, assistant to vice president, Montreal, appointed general superintendent, New Brunswick district, St. John, N. B., succeeding **Forrest E. Bailey,** retired. **J. C. Ames,** chief clerk, office of vice president, Montreal, replaces Mr. Perry.

Louis-Hebert Desjardins appointed French press relations officer, Montreal, succeeding **Raoul Clouthier,** retired. Mr. Desjardins was formerly television news assignment editor for the Canadian Broadcasting Corporation, Montreal.

J. M. Taylor appointed manager, Department of Natural Resources, Calgary, Alta., succeeding **Leslie Munroe,** appointed advisor in that department.

R. J. Shepp appointed general operating supervisor, Montreal.

J. E. Reynolds, division engineer, Brownville Junction, Me., transferred to the Montreal Terminals division, succeeding **A. K. Rowntree.**

CHICAGO & NORTH WESTERN.—Harry S. Aldridge, assistant treasurer, Chicago, elected treasurer, succeeding **Fred O. Linstead,** retired.

Alan H. Gepfert named to the newly created position of director of statistical research, and **Robert P. Brennan** appointed assistant to comptroller, both at Chicago. Mr. Gepfert was formerly industrial consultant and instructor, Case Institute of Technology, and Mr. Brennan was associated with Arthur Andersen & Company.

LOUISVILLE & NASHVILLE.—Ezra C. Patton, traffic manager, Birmingham, Ala., appointed assistant general traffic manager, Louisville, Ky., to succeed **John R. Barry,** who retired Oct. 31.

NEW HAVEN.—Charles C. Shannon, vice president—operations, New Haven, Conn., elected executive vice president.

J. A. Gregg appointed assistant superintendent, Boston, Mass. **E. P. Wrinn** named passenger trainmaster—system, New Haven. **F. P. Doran** and **R. N. Lindgren** appointed trainmasters at Providence, R. I., and New London, Conn., respectively.

RAILWAY EXPRESS AGENCY.—George T. Mazawey, public relations representative, appointed manager, News Bureau, New York.

William M. Hansen, European manager, Frankfurt, Germany, appointed to the newly created position of Far Eastern manager, Hong Kong. **James P. Prendergast** assistant general traffic manager, New York, succeeds Mr. Hansen in Germany.

READING.—David E. Cowell, division engineer, Philadelphia, appointed engineer of track there.

SOUTHERN.—W. H. Pitt, assistant auditor of joint facilities, Washington, D. C., appointed auditor of joint facilities. **R. L. Twynham,** special traveling auditor, appointed assistant auditor (mail, express and special audits). **M. W. Fischman,** electronic data processing analyst, named assistant auditor (retirement and employment records).

SOUTHERN PACIFIC.—George W. Kahler, assistant electrical engineer, San Francisco, retired Oct. 31.

Preston V. Stone appointed terminal superintendent, San Francisco, succeeding **Edward G. Davis,** who retired Nov. 1.

UNION PACIFIC.—A. J. VanDercreek, assistant vice president, Omaha, elected vice president-personnel there, to succeed **E. J. Connors,** vice president, retired (RA, Oct. 27, p. 70)

G. R. Rasmussen, district storekeeper, South-Central and Northwestern districts, Salt Lake City, Utah, appointed assistant general storekeeper there.

OBITUARY

Jeremiah Welch, 84, who retired in 1947 as assistant secretary and assistant treasurer of the **Milwaukee** at New York, died Nov. 4 in Holy Family Hospital, Brooklyn, N. Y.

Supply Trade

The Electric Storage Battery Company has moved its corporate general offices to No. 2 Penn Center Plaza, 15th Street and Pennsylvania Blvd., Philadelphia, from the Robinson Building, 15th and Chestnut Streets. The administrative, sales and accounting departments of the **Exide Industrial Division** have moved to the Philadelphia plant, Rising Sun and Adams Avenues, Philadelphia. The Cleveland Branch of the Exide Industrial Division has moved from the Engineers building to 2225 Hamilton Avenue, in downtown Cleveland. **L. M. Gay** heads both sales and service operations in the Cleveland area.

H. L. Ludwig, assistant to director of engineering, **Union Switch & Signal Division of Westinghouse Air Brake Company,** has been appointed executive assistant to T. B. Thompson, director of engineering. **J. E. Rupp,** administrative engineer in the Railway Project Engineering Department, has been appointed assistant to director of engineering.

Ralph Wilson Brown has been appointed railway and industrial sales engineer of the **Birdsboro Steel Foundry & Machine Company** in Baltimore, Philadelphia and the eastern United States. Mr. Brown was formerly with the Flannery Bolt Company, Pittsburgh.

Robert V. Simpson has joined **Birdsboro Steel Foundry & Machine Company,** Birdsboro, Pa., as railway and industrial sales engineer in Baltimore, Washington and points south. Mr. Simpson was formerly with Hyatt Bearings Division of General Motors Corporation.

Percy W. Smith, executive vice president of **General Railway Signal Company,** Rochester, N. Y., has been elevated to the presidency, replacing the late **Arthur E. Heimbach. Sydney W. Freeman** and **John W. Porter** have been elected vice presidents. Mr. Freeman was formerly executive assistant to president and Mr. Porter was general sales manager.

OBITUARY

Edward Wray, 74, former publisher of **Railway Purchases and Stores,** who remained as editorial advisor after that magazine was acquired by the Simmons-Boardman Publishing Corp. last January, died Nov. 4 in Chicago.

Percy W. Smith

Sydney W. Freeman

John W. Porter

You Ought To Know...

Operation of Pullman cars is being taken over by the Rock Island on certain long-haul runs, including trains 7 and 8, the "Rocky Mountain Rocket" between Chicago and Denver-Colorado Springs. Other trains involved in the switch: 9 and 8, Chicago-Des Moines; 39 and 40, Chicago-Kansas City; and 5-9 and 5-10, Minneapolis-St. Paul-Kansas City. RI will issue its own sleeping car tariffs and tickets.

A single-fare passenger rate structure is being tried on a six-month experimental basis by the Great Northern and Northern Pacific. Sleeping car accommodations will be offered at coach fares plus regular space charges between Minneapolis-St. Paul and Seattle-Portland and intermediate points. The lower fare structure applies on one train per road—GN's "Western Star" and NP's "Mainstreeter."

Television on Track 18 is the Long Island's latest step in modernizing its commuter operations. For the next two months, the LIRR will experiment with closed-circuit TV to tell its passengers what trains are running where. Mounted over the gate to Track 18 is a 27-inch screen, which televises the destinations of trains. On Track 19, a ground-glass screen will feature destination slides projected from the rear.

Chinese rail expansion continues. China, according to the Peking Review, is including several ambitious railroad projects in its Second Five-Year Plan (1958-62). A new railway is being built to link the seaboard province of Fukien with Kiangsi, Hunan, Kweichow and Yunnan in southwest China. It will run about 1,865 miles, and include about 600 tunnels. This is the first east-west line to be built south of the Yangtze. In Kansu, one of the least-developed provinces in northwest China, the Peking Review reports, a scheme is planned to build a network of 6,200 miles of short distance railways in the next three years.

"Transportation Sources" of air pollution will be discussed at the National Conference on Air Pollution Nov. 18-20 at the Sheraton Park Hotel in Washington. A panel discussion on this aspect of the problem will be led by Charles M. Heinen, assistant chief engineer, Materials Laboratories, Chrysler Corp., and Charles A. Jones, executive secretary, Smoke and Fumes Committee, American Petroleum Institute. The meeting has been called by the Public Health Service, U. S. Department of Health, Education and Welfare.

Sale to a public agency as part of a new reorganization plan is seen as a likely possibility for the bankrupt Hudson & Manhattan. Also outlined: an exchange through which present bondholders will receive Class A and Class B stock in the new company. Under the new plan, still subject to SEC approval, it is proposed to give to first-mortgage bond holders and refunding bond holders some bonds and Class A stock in the reorganized company, while the income bond holders will receive Class B stock in the new company.

Faith in the future of its passenger service is being demonstrated by the Central Vermont in the construction of a new station at Essex Junction, Vt. The new structure, to be completed "early in the spring," replaces a train shed and station built near the end of the Civil War.

TO MARK THE RETIREMENT of Robert S. Henry as vice president—public relations for the Association of American Railroads, Washington Star cartoonist Jim Berryman prepared this special cartoon tribute. Mr. Henry has been in railroad service for 37 years.

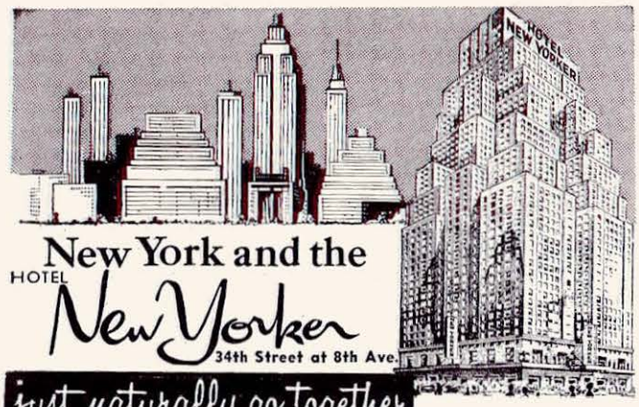
More equipment orders have been forecast by Pullman President Champ Carry. "Present indications," Mr. Carry said, "are for increasing purchases of equipment by both the railroads and trucking companies." He doubts, however, that new orders will be placed in time to "materially affect fourth-quarter operations."

The railroad industry "is not obsolete—it just owns some obsolete facilities," Pennsylvania President James M. Symes told the National Conference of Editorial Writers in Philadelphia. Heading the "obsolete" list: "trains that very few people ride any more." He was critical of "the delaying tactics of state commissions [that] only postpone the inevitable," cause loss of money that could be applied to necessary passenger services.

Unjust discrimination in favor of mail order concerns and other commercial users of parcel post has been charged by Alfred L. Hammell, president of Railway Express Agency. Reason for the charge: Mr. Hammell says that recently proposed increases in parcel post rates fall far short of meeting the requirements of the Federal law and should be properly increased before submission to the ICC.

L&N telegram transmission will be faster and more economical, now that railroad teleprinter facilities at Louisville, Ky., are tied in with Western Union's high-speed message center at Cincinnati, Ohio. All manual relaying of wires at Louisville is eliminated. It works this way: L&N's operator types the message on a teleprinter. Typing action perforates a message tape which feeds directly into an automatic transmitter connected through Louisville facilities with the WU Cincinnati center. Incoming wires are handled in similar high-speed fashion.

Ocean, highway and rail carriers serving Alaska have combined to provide one of the first integrated freight carrying services in the U. S. Alaska Steamship Co. is launching a $300,000 ship modification program that will double the cargo van capacity of three Liberty ships, making possible the shipment of 2,000 additional vans a year. Vans for Anchorage and Fairbanks are handled piggyback on the Alaska Railroad from Seward. At destination, delivery is made by Garrison Fast Freight or the Alaska Railroad.



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SECTION

Railway Age, 30 Church St., New York 7, N. Y.

Railroading Is on the Move

An operating officer, age 43—whose entire career up to a few months ago had been in the mid-west—has become executive vice president of a large eastern railroad.

There is an extensive migration of managerial talent from one railroad to another—not only at the top, but also at the departmental level. On individual railroads, also, considerations of seniority are losing their one-time dominance.

Never before in the present century have the railroads offered greater opportunities for managerial talent than they do now.

Skill and speed in innovation, rather than adherence to traditional ways of doing things, is now the mark of successful railroading. The revolution in motive power is almost complete—with some indication that a still further revolution may not be long in coming. A similar tempo of innovation is pervading the maintenance-of-way, signaling and communications departments.

There are men at or near the top of big railroads today—who are where they are largely because of the imagination and vigor they showed in finding means for most effective application of these innovations in railroad work.

For a half-century or more, innovation on the railroads—while it never ceased—was gradual rather than spectacular. Traditional practices changed so slowly that adaptation posed few troublesome problems. Mastery of time-honored methods was the skill most in demand for managerial positions.

The day of impatient innovation had not yet arrived. Now it has. There is an acute need for imaginative leaders who can deal effectively with these innovations (mastering them, rather than being mastered by them).

Challenges are industry-wide, and new ones arise almost daily. For example, leading airlines on November 3 announced an agreement whereby, if a strike occurs on one or more of them, the others will contribute revenue from their increased traffic to the lines that the strike has closed down. What is the legal background of this pact? If such an agreement is possible and advantageous to the airlines, would it not be similarly effective for the railroads? Unionists may lawfully aid member of other unions who are idle because of a strike. How far may employers go in extending similar assistance to other employers whom a strike has closed down?

This is only one of many vitally important problems confronting railroad lawyers and labor relations officers (and, of course, top managements). Similar challenges to ability and skill occur in every phase of railroading.

There is a vice president-operation of a large railroad who has introduced so many large economies that his performance is becoming almost a legend. He does his best to avoid publicity, but his achievements are nevertheless widely discussed and emulated.

Several large railroads, seeking wider experience in their financial management, have gone "outside" to recruit successful executives from other businesses to introduce their knowledge into railroading. There has been an increase, within the railroad industry itself, in choosing chief executives experienced in finance or the law.

Ability to deal realistically and effectively with present problems is getting the recognition it deserves, as a qualification for advancement. In every issue of this paper, improved railroad performance is recorded. (For example, elsewhere herein are descriptions of a more economical method of track-laying, improved flange lubrication, a new approach to pole-line maintenance.) Dozens and scores of such reports add up to results which make enviable reputations for the railroaders responsible.

OPPORTUNITY KNOCKS LOUDLY: On every railroad, in every department, there are challenges and opportunities—far greater than at any time in the memory of any active railroader. Alert railroaders should seize them.

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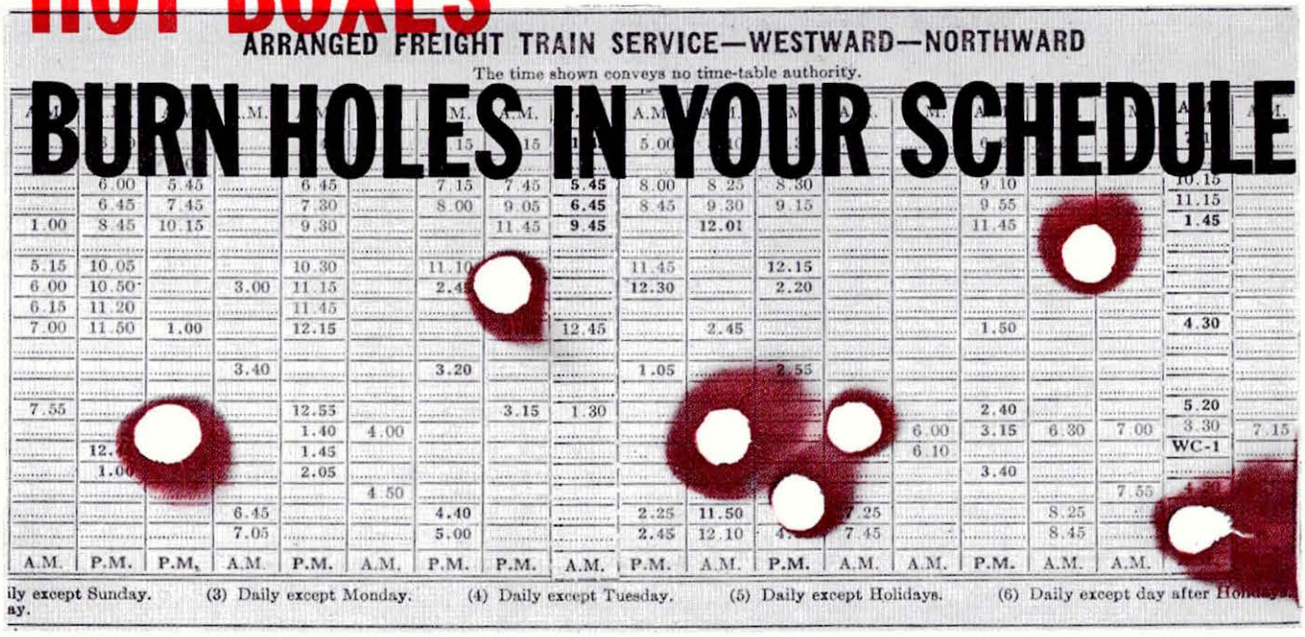
Located at track-side, automatically scanning every journal box that passes, this dependable infrared device is on duty 24 hours, summer or winter, rain or shine. Train speed may be 6 to 60 miles per hour.

Without any misses — without slowing or stopping trains — the SERVOSAFE® DETECTIVE* precisely locates every potential hot box and instantaneously flashes this information to the control point. Overheating journals can be caught *before* damage results, and a permanent record of the relative temperature of every journal is available for reference.

An investment in SERVOSAFE® HOT BOX DETECTIVE* equipment pays off fast. Get the complete facts on how your road can effectively handle "the biggest single deterrent to orderly train operation".

DON'T LET HOT BOXES BURN HOLES IN YOUR SCHEDULE


ARRANGED FREIGHT TRAIN SERVICE—WESTWARD—NORTHWARD

The time shown conveys no time-table authority.

	6.00	5.45		6.45		7.15	7.45	5.45	8.00	8.25	8.30			9.10			10.15
	6.45	7.45		7.30		8.00	9.05	6.45	8.45	9.30	9.15			9.55			11.15
1.00	8.45	10.15		9.30			11.45	9.45		12.01				11.45			1.45
5.15	10.05			10.30		11.10			11.45		12.15						
6.00	10.50		3.00	11.15		2.45			12.30		2.20						
6.15	11.20			11.45													
7.00	11.50	1.00		12.15				12.45		2.45				1.50			4.30
			3.40			3.20			1.05		2.55						
7.55				12.55			3.15	1.30						2.40			5.20
	12.			1.40	4.00								6.00	3.15	6.30	7.00	3.30
	1.00			1.45									6.10				WC-1
				2.05										3.40			
					4.50											7.55	
			6.45			4.40			2.25	11.50		7.25			8.25		
			7.05			5.00			2.45	12.10	4.	7.45			8.45		
A.M.	P.M.	P.M.	A.M.	P.M.	A.M.	P.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	A.M.	P.M.	A.M.	A.M.	

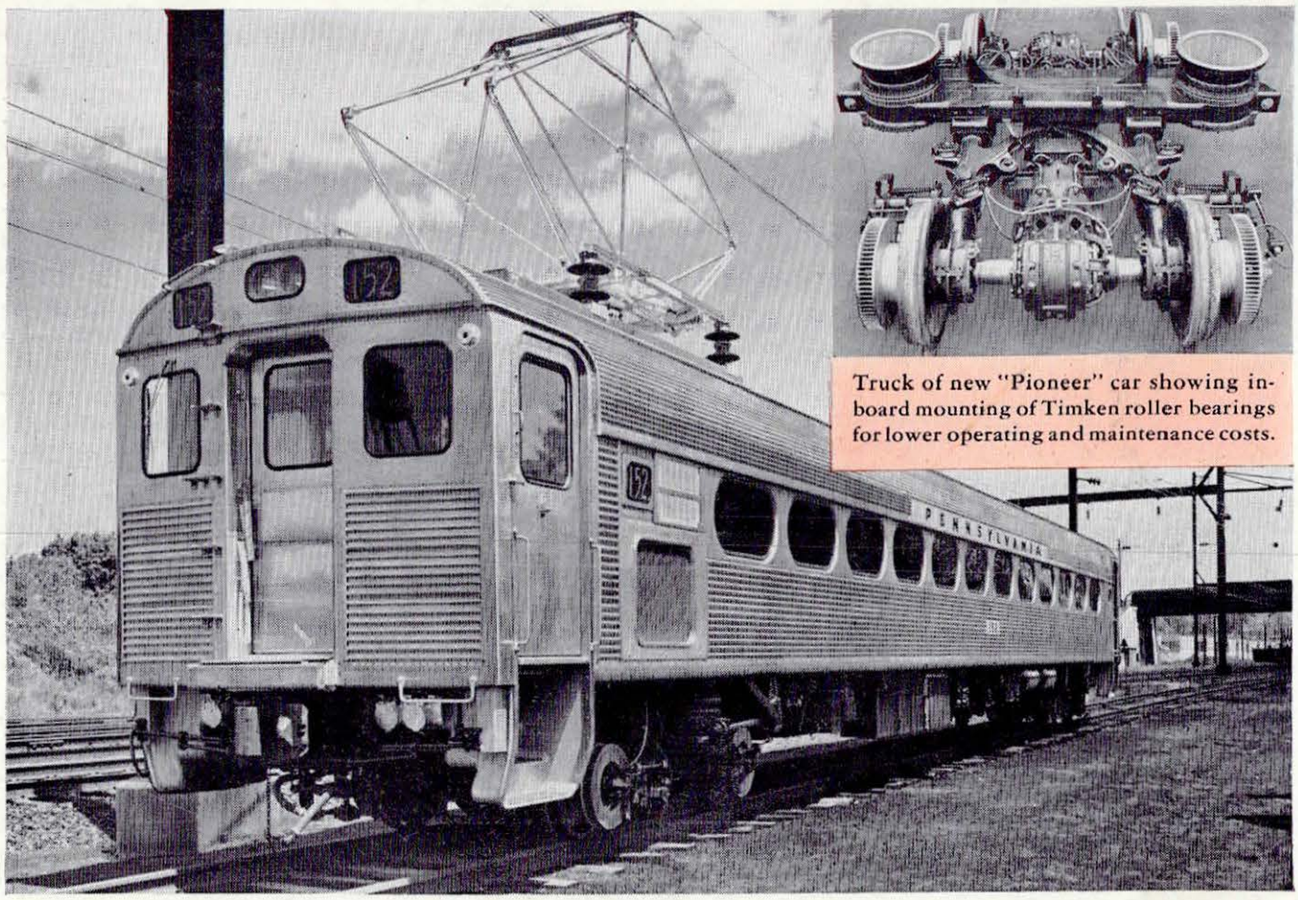
ily except Sunday. (3) Daily except Monday. (4) Daily except Tuesday. (5) Daily except Holidays. (6) Daily except day after Ho
ay.

One of our engineers will be glad to present to you some interesting facts and figures. With these, you can evaluate the economic significance of SERVOSAFE® HOT BOX DETECTIVE* for your road. Please address:

Railroad Product Sales

SERVO CORPORATION OF AMERICA *20-18 Jericho Turnpike New Hyde Park, L. I., N. Y.*

**U. S. and Foreign Patents applied for*



Truck of new "Pioneer" car showing inboard mounting of Timken roller bearings for lower operating and maintenance costs.

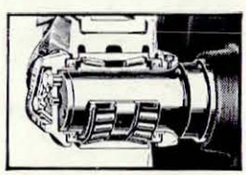
New Budd "Pioneer" suburban coaches for Pennsylvania R. R. roll on Timken® bearings

THE Pennsylvania Railroad is the first to order the Budd Company's new light-weight "Pioneer" suburban coaches. These new cars provide increased passenger comfort and additional seating capacity. Designed for high speed and economy, they roll on Timken® tapered roller bearings for smoother starting and riding, economy of operation and low cost maintenance.

The Timken Company helped pioneer roller bearings for passenger cars in the U.S.—helped make the "streamliners" possible. Because Timken bearings permit sustained high speeds without the problem of hot boxes, railroads started switching to them for freight cars—started using "Roller Freight". Today, 69 railroads and private car owners have over 26,000 "Roller Freight" cars in service or on order. And over ⅔ of these are in interchange service.

Timken bearings eliminate the costly hot box problem—the No. 1 cause of freight train delays. They *roll* the load instead of sliding it as plain bearings do. Timken bearings cut terminal bearing inspection time substantially. The only inspection they need is a touch for temperature. The new Timken "AP" bearing assembly (lower right) will go a minimum of three years without adding lubricant. When all freight is "Roller Freight", it will save America's railroads about $288,000,000 or $144 per car per year, in operating and maintenance costs.

Timken bearings help any freight or passenger car roll better. Better rolling freight cars mean better service for your shippers. That's Better-ness. To get Better-ness in your freight cars ask our engineers how "Roller Freight" can save your railroad money. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".



BETTER-ness rolls on **TIMKEN®** tapered roller bearings